HOW DO INSTITUTIONS MATTER FOR INNOVATIVE
ENTREPRENEURSHIP? AN INVESTIGATION AT THE REGIONAL SCALE

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ABSTRACT

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Entrepreneurship, which is widely regarded as the primary source of employment, technological progress, innovation and sustainable economic growth and development, differs significantly in terms of level and type across countries and even regions of the same country. Numerous studies have tried to explain why the level and type of entrepreneurship vary by regions with various regional determinants such as human capital, financial resources, unemployment, urbanisation, natural opportunities, industrial cluster and infrastructure. However, over time, a growing number of studies have demonstrated that these determinants alone are insufficient to determine the level and type of regional entrepreneurship, but rather that 'institutions' defined as the rules of the game that shape interactions between individuals in society, play a more effective role. However, although the current literature has provided significant evidence on the effects of institutions on regional entrepreneurship activities, there are important gaps in the literature.

In this sense, using Scott's three-dimensional institutions' definition, this study aims to explore, understand and explain how and to what extent the regulative (laws, regulations, rules and policies), normative (norms, values, beliefs and traditions) and

culture-cognitive (socially shared knowledge) dimensions/pillars of institutions determine the level of regional innovative (or innovation-driven) entrepreneurship. More precisely, by adopting the 'Exploratory Sequential Mixing Method', which consists of qualitative and quantitative research methods, this thesis tries to demonstrate the extent to which the three dimensions of institutions play a decisive role in explaining the innovative entrepreneurship level differences of NUTS-III level regions (or provinces i.e., Van, Elazığ, Bolu and Adana) in Turkey.

Using primary data obtained through in-depth interviews (43 participants) and a subsequent survey questionnaires (170 entrepreneurs), this research uses content analysis to analyse qualitative data, while factor, ANOVA, MANOVA, Discriminant Function and Multinomial Logistic Regression analyses to test quantitative data.

The study's findings clearly showed that all three dimensions of the institutions play critical roles in determining the innovative entrepreneurship levels of the provinces. Using provinces with different levels of innovative entrepreneurship, this study revealed that regions with low-quality institutions have relatively lower innovative entrepreneurship activities, on the contrary, those with high-quality institutions have higher innovativeness. In addition, the findings showed that compared to the regulatory dimension of institutions, the normative and culture-cognitive dimensions play more decisive roles in explaining the innovative entrepreneurship level differences between the provinces.

However, as with most studies, this study has some limitations. The lack of data sets on institutional dimensions and innovative entrepreneurship activities at the regional level is one of the main limitations of this study. Yet, by providing evidence showing how three dimensions of institutions at the regional level support or constrain innovative entrepreneurial activities, this study makes an essential contribution to the expansion of existing literature. Further, this study provides important policy recommendations at national, regional, firm and individual levels to promote regional innovative entrepreneurship activities and reduce inter-regional disparities.

ÖZ

YENİLİKÇİ GİRİŞİMCİLİK İÇİN KURUMLAR NASIL ÖNEMLİDİR? BÖLGESEL ÖLÇEKTE BİR ARAŞTIRMA

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İstihdam, teknolojik ilerleme, yenilik ve sürdürülebilir ekonomik büyüme ve kalkınmanın geniş bir biçimde birincil kaynağı olarak kabul edilen girişimcilik, ülkelere ve hatta aynı ülkenin bölgelerine göre düzey ve tip anlamında önemli farklılıklar göstermektedir. Çok sayıda araştırma, girişimcilik düzeyinin ve türünün bölgelere göre neden farklılaştığını insan sermayesi, finansal kaynaklar, işsizlik, kentleşme, doğal olanaklar, sanayi kümelenmesi ve alt yapı gibi çeşitli bölgesel belirleyiciler ile açıklamaya çalışmıştır. Ancak, ilerleyen dönemlerde, artan sayıda araştırma, bu belirleyicilerin tek başına bölgesel girişimcilik düzeyi ve türünü belirlemede yetersiz olduğunu, bunun yerine, bir toplumda bireyler arasındaki etkileşimleri şekillendiren oyunun kuralları olarak tanımlanan 'kurumların' daha etkili bir rol oynadığını ortaya koydu. Ancak, her ne kadar mevcut literatür kurumların bölgesel girişimcilik faaliyetleri üzerindeki etkileri konusunda önemli kanıtlar sağlasa da, bu anlamda literatürde önemli boşluklar bulunmaktadır.

Bu bağlamda, Scott'ın üç boyutlu kurumlar tanımını kullanan bu çalışma, kurumların düzenleyici (kanunlar, düzenlemeler, kurallar ve politikalar), normatif (normlar, değerler, inançlar ve gelenekler) ve kültür-bilişsel (sosyal olarak paylaşılan bilgi)

boyutlarının/sütunlarının bölgesel yenilikçi (veya yenilik-odaklı) girişimcilik düzeyini nasıl ve ne ölçüde belirlediğini keşfetmeye, anlamaya ve açıklamaya çalışmaktadır. Daha net bir biçimde ifade etmek gerekirse; nitel ve nicel araştırma yöntemlerini içeren 'Keşif Sıralı Karma Yöntemi' kullanarak, bu tez, kurumların üç boyutunun Türkiye'deki NUTS-III düzeyindeki illerin yenilikçi girişimcilik düzey farklılıklarını açıklamada ne ölçüde belirleyici bir rol oynadığını ortaya koymayı amaçlamaktadır.

Derinlemesine görüşmeler (43 kişi) ve akabinde yapılan anket çalışmaları (170 girişimci) ile elde edilen birincil verileri kullanan bu araştırma, nitel verileri analiz etmek için içerik analizini kullanırken, nicel verileri analiz etmek için ise faktör, ANOVA, MANOVA, Diskriminant Fonksiyon ve Çoklu Lojistik Regresyon analizlerini kullanmıştır.

Araştırmanın bulguları, kurumların her üç boyutunun da illerin yenilikçi girişimcilik düzeylerinin belirlenmesinde kritik roller oynadığını açıkça göstermiştir. Farklı yenilikçi girişimcilik düzeylerine sahip illeri kullanan bu çalışma, düşük kalitede kurumlara sahip illerin görece daha düşük yenilikçi girişimcilik faaliyetlerine sahip olduğunu, tam tersine yüksek kalitede kurumlara sahip olanların ise daha yüksek yenilikçiliğe sahip olduğunu ortaya koymuştur. Ayrıca bulgular, iller arasındaki yenilikçi girişimcilik düzeyi farklılıklarını açıklamada kurumların düzenleyici boyutuna kıyasla normatif ve kültür-bilişsel boyutlarının daha belirleyici roller oynadığını göstermiştir.

Ne var ki, çoğu çalışmada olduğu gibi bu çalışma da bazı kısıtlara sahiptir. Bölgesel düzeyde kurumsal boyutlar ve yenilikçi girişimcilik faaliyetleriyle ilgili veri setlerinin eksikliği bu çalışmanın başlıca kısıtlarından biridir. Buna rağmen, bölgesel düzeyde kurumların üç boyutunun yenilikçi girişimcilik faaliyetlerini nasıl desteklediğini veya kısıtladığını gösteren kanıtlar sunarak, bu çalışma mevcut literatürün genişlemesine önemli katkılar sağlamaktadır. Ayrıca bu çalışma, bölgesel yenilikçi girişimcilik faaliyetlerini teşvik etmek ve bölgeler arası eşitsizlikleri

azaltmak için ulusal, bölgesel, firma ve bireysel ölçeklerde önemli politika tavsiyeleri sunmaktadır.

Anahtar Kelimeler: Kurumlar, Düzenleyici, Normatif, Kültür-bilişsel, Yenilikçi Girişimcilik

To my beloved wife and children

Kübra, and Beyza, M.Akif and Sare

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INTRODUCTION

1.1   Aim and Context of the Study

The economic crises experienced in the 1970s, stemming from several major problems, including the breakdown of Bretton Woods' Agreements, the excessive rise in oil prices and the stagnation of the countries' economies, have become a critical breaking point for understanding the importance of entrepreneurship for economic growth and development. While these crises caused the collapse of many European and American industrial cities dominated by Fordist-type production, they led to small-scale and flexible production-based cities, which caught a high economic growth rate during this period, to come to the fore. For instance, Plummer and Taylor (2001) argue that the crises taking place in capitalism led to the recognition of the weaknesses of the branch-plant economies and the limitations of Fordism. Eraydın (2004) states that the economic crises in the 1970s caused the questioning of organised capitalism's absolute rules, which heavily depended on large-scale and mass production. As a result, after the 1970s crises, (regional) economic growth models based on state interventions, exogenous resources, and infrastructure investments were replaced by the new regional development approach, called Endogenous Regional Development Theories, based on internal dynamics, such as social capital, human capital, local knowledge, production culture, networks, entrepreneurship, and innovation. In that sense, Glasmeier (1994) agreed that these crises led to the end of Fordist-type production and the emergence of a new industrial order.

Models developed based on endogenous growth theory (i.e., new industrial districts, innovative milieus, regional innovation system, learning regions, and clusters) have described entrepreneurship and innovation activities as crucial vehicles of regional economic development and growth. In particular, as large firms, in general, were found slow and inflexible to adapt to new economic conditions and technological changes, since the 1990s, entrepreneurship has been widely recognised as one of the critical tools of long-term regional employment growth, technological progress, innovation, and economic growth and development (Acs and Armington, 2004). Further, along with the globalisation, entrepreneurship has begun to serve as a conduit for new knowledge and knowledge spillover and symbolise the missing link between economic development and investment in new knowledge (Acs and Armington, 2004).

Accordingly, Jensen (1993) argues that the development in information and communication technologies (ICTs), new invention and innovation, and knowledge spillover result in the 'Third Industrial Revolution'. In other words, the last quarter of the 20th century was described as the period of creative destruction in the Schumpeter Mark I regime, where small firms challenge established large firms by creating new and more sophisticated products and ideas (Carree et al., 2002). In this regard, Audretsch and Thurik (2001) describe this period as a transition from 'managed economy' towards 'entrepreneurial economy' in which economic, social and political events in the economy are engaged by knowledge which is gradually dominated in the production system and by the other factors as the capacity to create entrepreneurial activity and entrepreneurship capital.

Therefore, especially since the 1980s, entrepreneurship is widely recognised as the primary source of employment, innovation, technological progress, and sustainable economic growth and development, at both national and regional levels (Aparicio, Urbano, and Audretsch, 2016; Bjørnskov and Foss, 2016; Roman, Bilan, and Ciumaș 2018). For these reasons, governments and policy-makers in almost all countries strive to create suitable business and investment environments to encourage and

support entrepreneurial activities (Dvouletý and Lukeš, 2017; Escandón-Barbosa et al., 2019).

Parallel to this, an increasing number of theoretical and empirical studies have begun to examine the relationship between entrepreneurship and economic growth and development, employment and the competitiveness of regions and countries (Dvouletý and Lukeš, 2017). Since empirical studies dealing with the relationship between entrepreneurship and regional economic development in the early periods were conducted in developed countries, the links between them were found generally positive and meaningful. However, with the increase in empirical studies, it has been recognised that the association between entrepreneurship and economic development level is not the same for every regions and time; on the contrary, it shows significant variations according to place and time (Acs and Armington, 2004; Hall and Sobel, 2008), meaning that although some regions or countries have relatively higher levels of entrepreneurship, they may have below average growth rates or low levels of economic development (Fritsch and Schroeter, 2011). Different types of entrepreneurship have been identified as the essential factors that play a critical role in forming these differences. Thus, many studies began to focus on different types of entrepreneurship, such as opportunity-driven versus necessity-driven entrepreneurship, productive versus non-productive and disruptive entrepreneurship, and innovative versus non-innovative entrepreneurship, to explain this ambiguous relationship (Baumol, 1990; Aparicio et al., 2016; Raza, Muffatto and Saeed, 2018; Urbano et al., 2019; Lee et al., 2020). Thereby, different types of entrepreneurship have recognised as an essential phenomenon that clarifies differences in the level of economic growth and development across regions or nations.

In that sense, in recent years, many studies have begun to pay particular attention to the regional determinants that play crucial roles in determining the levels and types of entrepreneurship. At the regional level, initial studies have mainly focused on regional characteristics, including human capital, financial resources, unemployment, industrial clustering, urbanisation, natural amenities, and economic

development level in explaining both the levels and types of entrepreneurship (Verheul et al., 2002; Amorós, 2009). On the other hand, in the last two decades, a rapidly increasing number of studies suggest that such regional factors alone are insufficient in determining the levels or types of regional entrepreneurship (Kumar and Borbora, 2019; Dai and Liao, 2019). Studies have revealed that institutions, which are the critical determinants of economic behaviour and transactions in general, can impose direct and indirect effects on both the supply and demand side of entrepreneurship (North, 1990). Many researchers believe that region-specific institutions can explain the differences in types and levels of entrepreneurship between regions, as institutions differ considerably from one place to another (Baumol 1990; Scott, 2013; Bruton et al., 2010; Urbano and Alvarez, 2014; Alvarez et al., 2015; Terjesen et al., 2016). In that respect, in his seminal work, Baumol (1990) points out that institutions of a region play a crucial role in allocating entrepreneurs to be productive, unproductive, and destructive. Baumol (1990, p. 893) also argues that "… while the total supply of entrepreneurs varies among societies, the productive contribution of the society's entrepreneurial activities varies much more because of their allocation between productive activities such as innovation and largely unproductive activities such as rent-seeking or organised crime. This allocation is heavily influenced by the relative payoffs societies offer to such activities". Similarly, Amorós (2009) linked the differences in entrepreneurship between countries to different institutional environments, which cause the efficient distribution of economic resources to differ.

Likewise, a growing body of research has focused on the impact of institutions on entrepreneurial activities, using Scott's (1995) three-dimensional institutions definition, consisting of the regulative (laws, regulations, rules and policies), normative (norms, values, beliefs, and traditions) and culture-cognitive (socially shared knowledge) dimensions (Busenitz et al., 2000; Spencer and Gomez, 2004; Valdez and Richardson, 2013; Urbano and Alvarez, 2014).

Studies focusing on the regulative dimension have revealed that entry and bankruptcy costs, bureaucratic procedures, taxes, property rights, financial

resources, economic freedom, and corruption have significant implications for determining the level and type of entrepreneurship (e.g., Wang, 2016; Urbano et al., 2019; Ghura et al., 2019; Fuentelsaz et al., 2020; Bennett, 2020). On the other hand, studies examining the effect of normative institutions have suggested that culture, beliefs, values, traditions and norms play vital roles in regional entrepreneurial activities (e.g., Arasti et al., 2012; Muhammad et al., 2016; Escandón-Barbosa et al., 2019). In the same vein, research related to the culture-cognitive dimension indicates that knowledge, skills and experiences as well as risk and uncertainty aversion tendencies, trust and social networks have critical importance in explaining the level and type of regional entrepreneurship (Urbano and Turró, 2013; Neira et al., 2017; Boudreaux and Nikolaev, 2019; Lee et al., 2020). Hence, it is fair to say that these dimensions will influence individuals' ability to seize opportunities, their decisions to start a new business, the types of their ventures, financial instruments, management styles and growth decisions (Valdez and Richardson, 2013).

However, although there has been a significant increase in the number of studies focusing on the effects of the informal (i.e., normative or cultural-cognitive) dimension of institutions on entrepreneurial activities in recent years, the vast majority of the current literature in this field has focused on the regulative dimension of institutions because obtaining data on this dimension requires less effort than the previous two dimensions. As suggested by Rodríguez-Pose (2020), there is an essential gap in the literature regarding the normative and culture-cognitive dimensions of institutions. Bruton et al. (2010) argue that studies addressing the importance of informal institutions in the entrepreneurship context are lacking. Parallel to this, Carlsson et al. (2013) point out that more research is needed in the future to understand more broadly how institutional factors influence the formation of different types of entrepreneurship. Another fundamental deficiency in the literature is that the number of studies at the regional level is quite limited because there is no ready data set in most countries at this scale (Rodríguez-Pose, 2013; Szerb et al., 2015). As such, the number of studies on regions in developing countries is scarcely any (Kumar and Borbora, 2019; Urbano et al., 2019). Therefore, examining

the impacts of the three dimensions of institutions on entrepreneurship both at the regional level and in a developing country is of great importance.

The existence of these gaps in the literature has been the primary motivation source of this thesis. In this context, using Scott's institutional framework, this study attempts to explore, understand and explain how and to what extent the regulative, normative, and culture-cognitive dimensions/pillars of institutions determine the level of regional innovative (or innovation-oriented)[1] entrepreneurship (see Figure 1.1 and 1.2). More specifically, by adopting the 'Exploratory Sequential Mixing Method', which includes qualitative and quantitative research methods, this study aims to discover how the three dimensions of institutions play a decisive role in explaining the differences in innovative entrepreneurship levels of NUTS-III level provinces (i.e., Van, Elazığ, Bolu and Adana provinces) in Turkey. In other words, this thesis tries to shed light on the supportive and preventive roles of the three dimensions of institutions in the formation and development of innovative entrepreneurship activities.

It is also worth noting that, to the best of our knowledge, there is no previous empirical study in the literature that investigates the relationship between the three pillars of institutions and the level of innovative entrepreneurial activity at the regional or provincial level. Previous studies examining the links between institutions and entrepreneurship often tend to look at selected institutional variables such as entry regulations, incentives, government policies, religion and culture. Despite all these positive developments, there are essential grey areas that suggest more research is needed in explaining the relationship between entrepreneurship and institutions. It is therefore essential to address a wide range of institutional variables in order to clarify these unrecognised and grey areas in the relationship between these two phenomena and to make research more efficient. In this respect, dealing with a

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[1] In this study, innovative entrepreneurship and innovative-oriented entrepreneurship are used interchangeably.

wide range of relationships between institutions and innovative entrepreneurship can shed light on many important issues. First, the thesis will show how effective the three dimensions of institutions are in determining the regional levels of innovative entrepreneurship. Second, it will show how the locally occurring entrepreneurship culture and perception affect regional entrepreneurship types and how this culture and consciousness has changed over time and contributed to or hindered regional innovative entrepreneurship development. Third, it aims to reveal internal and external factors that play essential roles in shaping the entrepreneurship and innovation perception and culture of a region that effectively constitutes innovative entrepreneurship. Finally, the findings of this thesis hope to show how both formal and informal institutions need interventions to develop regional innovation-oriented entrepreneurship activities.
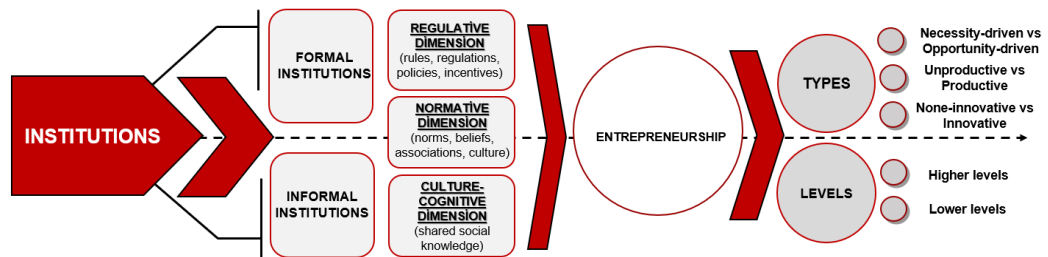
Figure 1.1. The Link between Institutions and Entrepreneurship

As a result, this thesis aims to explain why the level of innovative entrepreneurship, which has critical importance in explaining the differences in the economic development levels of the regions in Turkey, differs according to regions/provinces with different regulative, normative and cultural-cognitive dimensions of institutions. In addition, since entrepreneurship, innovation, and R&D activities are vital in driving the "Fourth Industrial Revolution or Industry 4.0" in today's world, this thesis hopes to reveal the problems faced by entrepreneurs in Turkey at the local level and in-depth. At the same time, it aims to provide some tips and policies for solving these structural problems that can facilitate the adaptation of entrepreneurs in Turkey to Industry 4.0. Thus, it is hoped that the results of this thesis will make significant contributions to the regional economic development, entrepreneurship,

and institutions literature and provide critical evidence and information to policy-makers and governments.

1.2   Research Questions and Hypotheses

This thesis will try to find answers to the following research questions:

Main Research Question: How do institutions explain the differences in the levels of innovative entrepreneurship among regions/provinces?

Main Hypothesis: It is expected that regions/provinces having high-quality institutions that create a favourable business environment for entrepreneurs and facilitate and encourage entrepreneurs to start innovative activities will have a higher level of innovative entrepreneurship.

Sub-Research Questions:

Since the subject of institutions has been conceptualised by dividing into three dimensions in the literature, this thesis investigates the effects of these three dimensions of institutions on the level of regional/provincial innovative entrepreneurship activity. Based on these dimensions, the following research questions are formulated.

RQ1: How does the region-specific regulative dimension of institutions (i.e., written rules, laws, regulations, government policies, incentive system, etc.) explain the difference in the levels of innovative entrepreneurship among regions?

HYP1a: Although the laws, rules and regulations applied in Turkey contain roughly the same obligations for all regions, significant differences may occur in the practice of these between the regions. Therefore, it is expected that the level of innovative entrepreneurship will be higher in the regions that produce and implement appropriate policies for entrepreneurship and support the development of innovation activities.

HYP1b: Since the investments made in the provinces are supported at different rates in the new incentive regime implemented in the country, that is, investments in less developed provinces are supported at higher rates compared to more developed provinces, it is expected that the effect of the government supports and incentives on innovative entrepreneurial activities differ across the provinces

HYP1c: As the availability and accessibility of financial resources is a key tool for entrepreneurs to achieve their goals, innovative entrepreneurship activities are expected to be at a higher level in provinces where financial resources are abundant and easy to access.

RQ2: How does the region-specific normative dimension of institutions (such as, culture, traditions, customs, values, norms, beliefs, expectations, etc.) explain the difference in the level of innovative entrepreneurship between regions?

HYP2a: Regions with culture, tradition, value, norms and belief system that support and adopt entrepreneurship, creativity and innovation are expected to have higher levels of innovative entrepreneurship.

HYP2b: Diversity and tolerance are widely accepted as crucial determinants of creativity in a society, so it is hypothesised that the higher the level of tolerance and openness to new and different ideas in a province, the higher the level of innovative entrepreneurship in that province.

RQ3: How does the region-specific culture-cognitive dimension of institutions (expressed as the basic knowledge, skills, and experiences required for an individual to become an entrepreneur) explain the difference in the level of innovative entrepreneurship between regions?

HYP3a: Innovative entrepreneurship intentions and therefore activities are expected to be higher in regions where entrepreneurial knowledge, skills and experience are more widespread.

HYP3b: Individuals with a high risk-taking tendency in uncertain environments are more likely to be entrepreneurs. Therefore, the level of innovative entrepreneurship

is expected to be higher in regions with higher risk-taking and uncertainty-bearing tendency.

HYP3c: High trust environments and strong social networks created by regional culture and values are also crucial factors for supporting innovative activities within a region. For this reason, innovative entrepreneurship levels are expected to be higher in regions with higher levels of trust and strong social networks.

HYP3d: The existence of entrepreneurial culture or successful entrepreneur role models in a region plays a critical role in shaping the entrepreneurship perception in that region in a positive sense. Therefore, provinces with successful entrepreneurship examples and a high entrepreneurship culture are expected to have higher innovative entrepreneurial activities.
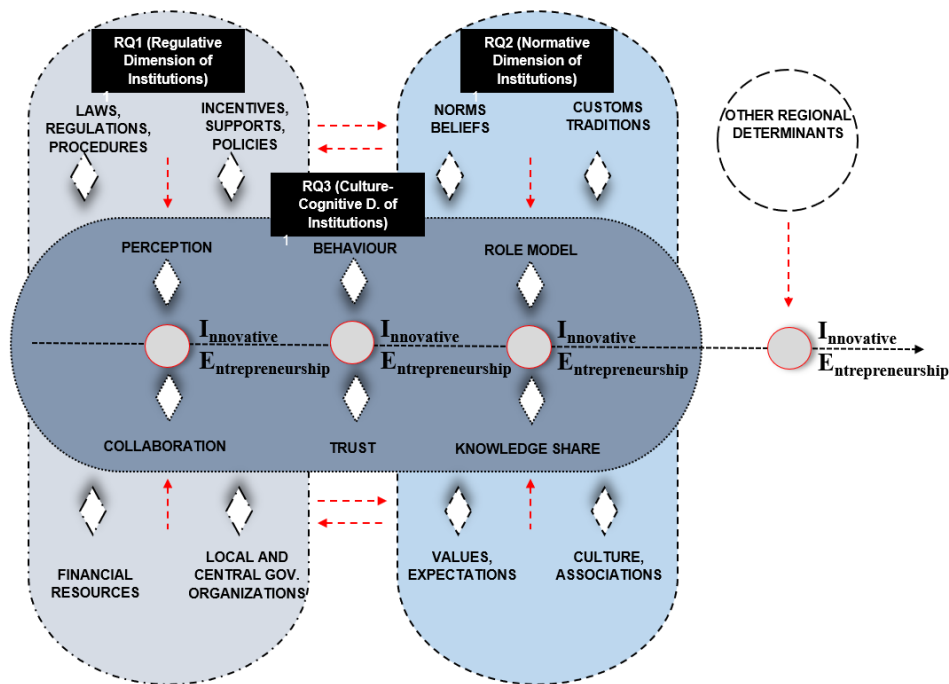
Figure 1.2. Scott's three-dimensional institutions' definitions and Innovative Entrepreneurship

1.3   Thesis Outline

This thesis consists of eight chapters. Chapter 1 includes an introduction that briefly summarises the aim and scope of the research and provides the research questions and hypotheses.

Chapter 2, consisting of three main parts, reviews the existing literature. The first part defines institutions and Scott's three-dimensional framework. On the other hand, the second part examines the theoretical and empirical studies investigating the association between the regulative, normative and culture-cognitive dimensions of institutions and innovative entrepreneurship. The last part draws a conclusion.

Chapter 3 consists of seven sections. The first-six section tries to show what kind of institutionalisation efforts took place to develop (innovative) entrepreneurship in Turkey in the historical process. The critical breaking points that Turkey has experienced since its foundation has pushed it to adopt different methods in its entrepreneurship and institutionalisation approaches. Therefore, it is of great importance to understand the impact of the institutionalisation process in Turkey on entrepreneurship. The last section summarises all these processes briefly.

Chapter 4, which presents the methodology of the study, consists of three main sections. The first section explains the rationale of the case selection process and describes the cases. The second section provides general information about research design. The last section includes valuable information about both the qualitative and quantitative research phases: data source and gathering techniques, sampling, and analytical procedures of data analysis.

Chapter 5 provides the results of the first phase of the research, the qualitative research phase. This chapter includes three main sections. While the first section presents the general findings of the qualitative research phase, the second section compares the cases based on content groups, and the last section is devoted to evaluating the qualitative results.

Chapter 6 provides the analytical procedures and the results of the quantitative phase of the research. This chapter consists of two main sections: the first section includes reliability and validity tests, descriptive statistics, and the results of MANOVA, ANOVA, Discriminant Function Analysis and Multinomial Logistic Regression Analysis. The second section provides an evaluation of the findings.

Chapter 7 provides an overview and discussion of both the qualitative and quantitative research phases. In this section, the findings obtained in both phases are discussed by comparing them with the results of previous studies and to what extent they support the hypotheses.

Chapter 8 presents the study's conclusions, policy implications, guidelines for future studies, and main contributions.

CHAPTER 2

THEORETICAL FRAMEWORK OF THE RESEARCH

This research attempts to explore how and to what extent the regulative, normative and culture-cognitive dimensions of institutions affect the regional innovative entrepreneurship level. To achieve this goal, it is essential to understand the relationship between institutions and innovative entrepreneurship activities. Accordingly, this chapter consists of three main parts. The first part presents the definitions of institutions and Scott's three-dimensional framework. On the other hand, the second part includes the theoretical discussion of the links between the regulative, normative and culture-cognitive dimensions of institutions and innovative entrepreneurship. The last part draws a conclusion.

2.1   Definition of Institutions

The section aims to provide different definitions of 'institution'. It is possible to come across many definitions of institutions in the literature. For example, Veblen (1919) argues that institutions that include codes of conduct, customs, principles of right and property are established habits of thought peculiar to society. Commons (1924) defines institutions as collective actions that enable restriction, liberation and expansion of individual activities. On the other hand, Hamilton (1932) has pictured institutions as a set of thoughts or actions which are embedded in the habits of a group or the traditions of a society and have a certain prevalence or persistence.

Moreover, institutions have been defined as mental constructs and common rules that govern social activities (Neale, 1987), and norms regulating relationships between individuals (Parson, 1990). However, by introducing a broader and more comprehensive definition, North (1990, p.3) has described institutions as *'the rules*

of the game in a society that function as opportunities and constraints shaping human interaction'. He also suggests that "*institutions are the humanly devised constraints that structure political, economic and social interaction… Throughout history, institutions have been devised by human beings to create order and reduce uncertainty in exchange*" (North, 1991, p.97).

Following these, Scott (2013, p.56-57) defines institutions as rules, regulations and socially accepted forms of activity and behaviour, as well as symbols and meanings that provide stability and meaning to social life. He suggests that these are multifaceted and resilient social structures composed of symbolic elements, social activities and material resources.

Therefore, scholars believe that institutions have a considerable impact on individuals and organizations (DiMaggio and Powell, 1991; North, 1990; Bruton et al., 2010). For instance, Scott (2013) suggests that institutions operate at multiple jurisdictions, from the supranational system to localized interpersonal relations, and impose restrictions by defining rules, laws, and moral and cultural boundaries for both legal and illegal activities. He says that such institutions affect organizations and individuals in indirect but effective ways, thus greatly influencing the decision-making process of both organizations and individuals (Scott, 1995).

Likewise, Urbano and Alvarez (2014) argue that institutions are rules, norms and habits that control social, political and economic interactions and provide stability and meaning to social life. Alvarez and Urbano (2012) suggest that the primary aim of institutions in a society is to reducing uncertainty by creating a stable and reliable structure for human interactions. In other words, Diaz et al. (2013) argue that in a broad sense, institutions consist of specific rules and regulations governing the society, and further, directing and conditioning the relations derived from the community.

Historically, North (1990) pioneered by separating formal and informal institutions mainly based on institutional economics principles. In this line, North (1990, 2005) argues that institutions can be formal (i.e., political and economic rules and contracts,

property rights, and laws) or informal (i.e., norms, values, attitudes, beliefs, conventions, and codes of conduct) constraints. Formal institutions which refer to explicit rules in a society include codified legal and political structures, written rules such as constitutions, laws, regulations, contracts, and codified standards or rules. These standards may be established by the community members or authority, in both cases, the rules are officially written, and all members of the group are affiliated.

On the other hand, informal institutions can be understood as the constraints people impose on themselves to structure or regulate their relationships with others (North, 1990). Informal institutions consist of culture, norms, conventions, mores, social customs, beliefs, expectations, associations, and families (called organizational structures). According to Keefer and Knack (2005), these institutions' sustainability is tightly linked to respect for norms and values and mutual trust.

Considering the previous discussions in the literature, Williamson (2000, pp. 596–600) suggested a hierarchy between institutions and that institutions consist of four different levels (see Table 2.1). At the top (Level 1) are informal institutions such as norms, traditions, customs, mores, beliefs, and culture deeply embedded in society and whose emergence and change takes place over a long time (centuries or millennia). Formal institutions that define laws, regulations, rules and policies and represent the institutional environment are located at the second level, and they can change or evolve faster than informal institutions (10 to 100 years). At the third level, there is governance that can change more rapidly (1 to 10 years) and lays out how the rules of the game should be played. At this level, it is implied that there is a need for a properly functioning legal system to design and enforce contract laws. Resource allocation and employment, which may change at any time are located at the last levels. According to this hierarchy, as moving upwards, institutions' speed of change declines and takes longer. Further, the higher institutional levels constrain lower levels, such as informal institutions embedded in society (Level 1) can restrain the formal rules (Level 2), in turn, the formal rules limit the interactions emerging within institutions in Level 3, which ultimately influence the allocation of resource (Level 4) (Boettke and Coyne, 2009).

Table 2.1 Williamson's hierarchy

Level	Types of Institutions	Change period
Level 1	Embeddedness: informal institutions, customs, traditions, norms religion	100 to 1000 years
Level 2	Institutional environment: formal rules of the game- esp. property (polity, judiciary, bureaucracy)	10 to 100 years
Level 3	Governance: the play of the game --esp, contract (aligning governance structures with transactions)	1 to 10 years
Level 4	Resource allocation and employment (prices and quantities; incentive alignment)	Continues

As indicated in Williamson's hierarchy, formal and informal institutions are not disconnected and irrelevant but rather in close interactions (Boettke and Coyne, 2009). Several scholars suggest that formal and informal institutions interact in two primary ways that either support or weaken each other (North, 1990; Williams and Vorley, 2015; Su, 2020). Boettke and Coyne (2009) suggest that informal institutions are self-enforcing since they reflect underlying belief systems, customs, traditions, and norms. According to them, formal institutions' implementation will be costly when formal institutions do not reflect and comply with underlying informal norms because the formal rules governing society will conflict with basic belief systems. In such cases, some external enforcement (e.g. government agencies, police, and courts), or the threat thereof will be required to enforce formal rules. Therefore, the transaction costs of enforcing formal rules that do not comply with society's values judgments will be quite costly. In contrast, where the formal rules are compatible with the informal norms, the enforcement costs of these rules will be relatively low. Formal rules will be largely self-enforcing in such cases, as they are based on embedded informal institutions. In other words, formal institutions accepted and adopted by a large section of society will tend to be self-sustaining and self-expanding over time (Hardin, 1999). In this sense, as David Hume (2000, p.526) points out, the rules of a good society must be written into its citizens' hearts and minds long before they are written down on parchment.

2.1.1 Scott's Three-Dimensional Framework

Based on the work of North (1990) and DiMaggio and Powell (1991), Scott (1995) further expanded formal and informal institutions into the regulative, normative and culture-cognitive pillars or dimensions. Scott (2013) suggests *"institutions are comprised of regulative, normative and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life"*. This framework provides a proper perspective for understanding many aspects of the environment surrounding entrepreneurship in a given society (Valdez and Richardson, 2013). In this subsection, these three pillars or dimensions of institutions are defined.

The regulative dimension consists of government policies, rules, regulations, and laws that have been created for restricting or stimulating socio-economic life. It is generally concerned with rule-setting, monitoring and sanctioning activities (Scott, 1995). This dimension is generated and controlled by the government or other competent bodies that guides and regulates individual or organizational actions and provides incentives or sanctions (Scott, 2013). Therefore, the regulative dimension determines legal and illegal actions in a particular social context (Effah, 2016). In other words, this dimension, which includes laws and administrative guidelines that establish the basic rules governing market operations, provides socio-political legitimacy for economic activities (Sine and David, 2010).

The normative dimension refers to norms, values, beliefs, expectations, and assumptions about socially embedded and shared human nature and behaviour (Alvarez and Urbano, 2012). According to Scott (1995), this dimension of institutions is embedded in basic social features such as culture, social structures and routines that affect individual behaviours and decision-making processes such as career choices. It also manifests itself in society's standards, values, and norms that determine individuals' economic behaviour (Manolova et al., 2008). In Scott's assessment, normative institutions provide an imperative, evaluative, and mandatory dimension to social life and help understand how values and norms shape choice and

preference (Scott, 1995, p.37-38). That is, the normative dimension guides an individual's behaviour by defining what is appropriate and expected in a social context (Bruton et al., 2010). In other words, *"normative systems define goals or objectives but also designate appropriate ways to pursue them"* (Scott, 2013, p.55). Therefore, they have the power to exert influence on individuals or organizations based on social obligations. Accordingly, it contributes to creating stability by determining society's responsibilities and the expectations of the individuals in that society, based on moral values and obligations (Alexander, 2012).

The cultural-cognitive dimension, which is the most informal of the three dimensions of institutions (Bruton and Ahlstrom, 2003), refers to the cognitive structures and social knowledge shared by the people in a particular society (Alvarez and Urbano, 2012). The culture-cognitive institution, in other words, is shared concepts that consist of the nature of reality and the frames in which meanings are formed (Scott, 2013). Likewise, researchers suggest that the culture-cognitive dimension refers to templates and scripts shared among individuals in a community or nation (Seelos et al., 2011).

Additionally, culture-cognitive institutions are concerned with the way people choose and interpret information in a society (Bianchi et al., 2015). At the same time, this dimension describes ideologies, logic, or cognitive frameworks that are deeply embedded and spread within a social setting and includes assumptions about how things are done (Sine and David, 2010). Moreover, Arasti et al. (2012) suggest that the culture-cognitive dimension refers to the basic skills, knowledge and beliefs that determine the economic behaviour of individuals. Similarly, Spencer and Gomez (2004) assert that the knowledge and skills acquired by people in a locality and the frameworks they use to classify and evaluate this knowledge reflect the cognitive structure of that society.

To sum up, all institutions' dimensions seem to play a critical role in explaining the differences in entrepreneurship types and levels across regions or nations. As can be understood in the definition of the three dimensions of institutions, institutions play

a vital role in forming the knowledge, experience, intention, tolerance and incentive required for entrepreneurship, that is, in defining a framework that supports or prevents entrepreneurship. In this sense, the relations between the regulatory, normative and culture-cognitive dimensions of institutions and entrepreneurship will be discussed and evaluated both theoretically and empirically in the following sections.

2.2   Institutions Roles on Regional Innovative Entrepreneurship

Throughout history, the concept of institutions has existed in the discipline of economics, but in some periods, they were seen as an essential input in the emergence of economic results, while in other periods, they were ignored or kept constant. Despite the initial emphasis of the classical economists, such as Adam Smith, on legal and political institutions and their impact on the economy, in later periods, economists increasingly overlooked the importance of context for economic outcomes (Boettke and Coyne, 2009). Similarly, Rodríguez-Pose (2013, 2020) argue that social scientists had analysed the role of institutions for more than a century, but the link between institutions and economic development had long been ignored by mainstream economic theory, in general, and growth theory, in particular.

However, although economic modelling could not be developed, an increasing emphasis on the importance of institutions for the economy began to emerge from the 1960s on. In his work, *'The Problem of Social Cost'*, Ronald Coase (1960) drew attention to institutions' critical importance by shifting the debate on externalities from standard welfare economics to comparative institutional arrangements. Subsequently, highlighting the costs and benefits in economic activities, Harold Demsetz (1967) argued that institutional arrangements could ensure a net benefit in reducing transaction costs. Later, by exploring the effects of institutional changes on economic outcomes (e.g., political rent and population growth), Douglass North and Robert Thomas (1973) further emphasised institutions' role in the economy. In similar periods, Oliver Williamson's (1975) work, which analysed the effects of

institutions on firms, brought additional attention to institutions' role. According to Boettke and Coyne (2009), Williamson's work forms the foundations of "New Institutional Economics".

Thus, until the 1990s, institutions whose importance for economic outcomes were not sufficiently understood became widely accepted as an essential factor in determining economic consequences, primarily after Douglass North was awarded the Nobel Prize for his work on institutions and institutional change in 1993. In particular, North's (1990) study, *'Institutions, Institutional Change and Economic Performance',* led to the widespread acceptance of the idea that "institutions matter" for economic results. Besides, the importance of institutions has further enhanced by Vernon Smith, who won the Nobel Prize in 2002 for his work on how institutions determine "rational" and "irrational" behaviour.

Inspired by these studies, the number of theoretical and empirical studies focusing on institutions has started to increase gradually (see Baumol (1990), Acemoglu et al. (2004), Rodrik et al. (2004), Acemoglu and Robinson (2005), Urbano and Turró (2013), Cardoza et al. (2016), Elert et al. (2017), Raza et al. (2018), Urbano et al. (2019), Li et al. (2019), Lee et al. (2020), Fuentelsaz et al. (2020), and many more.) (See also Appendix Table 2.1A-D). In this sense, what Boettke and Coyne (2006) pointed out is remarkable: *"it is only recently that economists have begun to pay attention to the role of institutions and how they affect entrepreneurial behaviour".* Accordingly, many studies have identified institutions as a viable approach to analysing the formation and development of the entrepreneurial activity, in general, innovative entrepreneurship, in particular (Veciana and Urbano, 2008; Welter and Smallbone, 2011; Alvarez et al., 2015; Raza et al., 2018).

Within this context, the economic literature has received institutions as possible antecedents of economic growth since they enable the Schumpeterian (innovative) entrepreneurship that drives productivity and efficiency (Mthanti and Ojah, 2018). In this regard, it is widely acknowledged that institutions play a fundamental role in enabling or constraining innovation, entrepreneurship and ultimately economic

development (Grillitsch, 2018). Likewise, scholars point out that institutions play a crucial role in helping explain the forces shaping entrepreneurial success (see also, Bruton et al., 2010; Estrin et al., 2013; Li et al., 2019).

Extant studies have shown that institutions profoundly affect innovative entrepreneurship as they shape their costs and benefits (Bjørnskov and Foss, 2016; Chowdhury et al., 2019; Su, 2020). Further, Grillitsch (2018) argues that institutions introduce opportunities and constraints for breakthrough innovations. Urbano et al. (2019) claim that institutions that shape entrepreneurial behaviour positively impact innovation activities and economic growth. They also suggest that institutions (formal and informal) encourage individuals with innovative ideas to start new ventures and contribute to economic growth and development.

Parallel to these arguments, several researchers believe that the recognition, evaluation and exploitation of business opportunities in the market are shaped by person-environment interactions, such that the institutional context significantly determines individuals' motivations and capacities to exploit innovative entrepreneurial opportunities (McMullen et al., 2008; Lim et al., 2016; Li et al., 2019). In other words, countries or regions with different institutional environments (i.e., various institutional quality[2]) are expected to have different levels and/or types of entrepreneurship (Amorós, 2009). However, Hall and Sobel (2008), arguing that the quality of institutions differs between regions and is relatively permanent over time, implied that regions with high-quality institutions (i.e., market supporting) might have more innovative entrepreneurship activities than regions with low institutional quality because high-quality institutions help to create an entrepreneurial climate conducive to innovation and growth.

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[2] That is, it is assumed that the institutional quality is higher in regions where the risk of expropriation is low, property rights are secure, financial resources are abundant and accessible, state supports and policies are diverse and rich, entrepreneurship is a valuable and desirable career in society, norms and values support innovation and diversity, the media and education system encourage entrepreneurship, and so forth.

On the contrary, poor-quality institutions not only reduce incentives to invest but also prevent the allocation of resources to the most efficient purposes (Knowles and Weatherson, 2006). That is to say, where institutions are weak or poorly designed, they can hinder growth and damage entrepreneurial culture (Williams and Vorley, 2015), thus restricting the development of innovative entrepreneurship activities. Also, Lim et al. (2016) indicate that where the institutional environment is perceived as hostile to entrepreneurial activities, the willingness to start a new and innovative enterprise is limited due to low incentive and motivation. This implies that entrepreneurs cannot engage in productive and innovative activities in every institutional setting, that is, institutions owned by each country or region, which differ significantly, trigger the formation of different entrepreneurship levels and types.
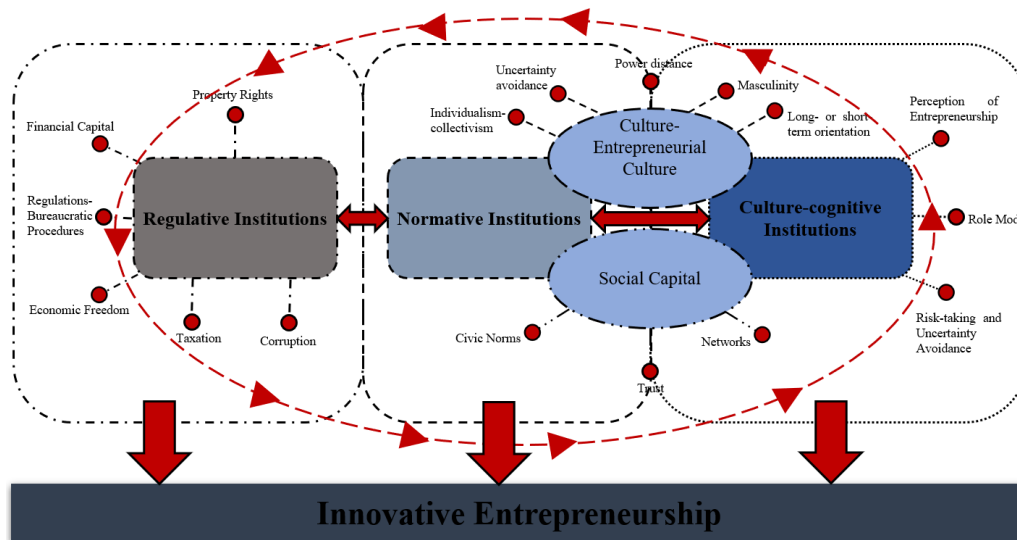
Figure 2.1. Conceptual Model of the Relationship of the Regulative, Normative and Culture-Cognitive Dimensions of Institutions with Innovative Entrepreneurship.

Previous studies show that the regulative, normative, and culture-cognitive dimensions are critical factors that determine the levels and types of entrepreneurial activities in a particular time and place (Arasti et al., 2012; Valdez and Richardson, 2013; Urbano et al., 2019; Li et al., 2019; Su, 2020). In this respect, by adopting Scott's (1995) three-dimensional conceptualisation, the effects of the regulatory,

normative and culture-cognitive dimensions of institutions on innovative entrepreneurship are presented in the following sections. Figure 2.1 demonstrates a conceptual model that indicates the links between the dimensions of institutions and innovative entrepreneurship.

2.2.1   Regulative Institutions and Innovative Entrepreneurship Activities

A growing number of studies have shown that the regulative dimension, which includes many issues such as rules, laws, regulations, policies and incentive systems, is critical for innovative entrepreneurship activities by identifying opportunities and constraints (see Table 2.2) (see Raza et al., 2018; Agostino et al., 2019; Fuentelsaz et al., 2020; Lee et al., 2020; Sedeh et al., 2020). Bureaucratic processes (Aparicio et al., 2016; Urbano et al., 2019), property rights (Fuentelsaz et al., 2015), financial capital (Santos et al., 2019), economic freedom and governance (Bennett, 2020), and corruption (Ghura et al., 2019) are some of the main regulatory institutional factors, widely considered. According to Scott (1995), creating rewards and punishments that will affect future actions by determining rules is one of the primary duties of this dimension. In other words, this dimension standardises measures and sets limits for them (Valdez and Richardson, 2013). Researchers have pointed out that this dimension deeply affects the innovative entrepreneurial processes through various policies and measures (Bruton et al., 2010).

However, researchers suggest that the link between institutions and the levels and types of entrepreneurship is highly context-dependent (Levie and Autio, 2011). In other words, as indicated by Sambharya and Musteen (2014), countries differ significantly in the quality of regulatory institutions[3] in terms of licenses, the amount

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[3] At the high-quality regulatory dimension, laws are strongly enforced, bureaucratic processes are fast and efficient, the tax system is fair, incentives are abundant and diverse, financial resources are accessible, and governments prescribe and supervise the rules of the game, whereas at a low-quality regulatory dimension, laws are weak and bypassed, bureaucratic processes are cumbersome, the tax system is unfair, incentives system is ineffective, the rules of the game are blurred and beyond the

of start-up capital, taxes, costs, and the number of procedures for obtaining permissions to start an innovative business. For example, according to the World Bank's 2020 report, while it takes about 100 days to complete all the legal obligations required to start a new business in Cambodia, entrepreneurs in New Zealand can fulfil the same in half a day.

In this sense, Krasniqi and Desai (2016) claim that weak regulative institutions can constrain innovative business ventures. Similarly, Gnyawali and Fogel (1994) argue that government regulations such as procedures, costs and taxes are often perceived negatively by individuals who intend to start an innovative business. Hence, Bülow (2015) argues that weak market-supporting institutions discourage entrepreneurs from innovating and investing in new products and services. In the same vein, research suggests that a weak regulatory environment characterised by heavy entry regulations (the number of procedures, time and costs), high transaction costs, low access to financing, cumbersome regulatory systems, heavy tax burdens, unfair competitions, and short economic freedom, hinders the formation of new innovation-oriented firms and results in higher rates of business failure (Stenholm et al., 2013; Fuentelsaz et al., 2020; Lee et al., 2020). Accordingly, several papers indicated that weak regulative institutions which render markets inefficient push entrepreneurs to more unproductive activities instead of encouraging them to innovative activities (Baumol, 1990; Fuentelsaz et al., 2020).

On the contrary, entrepreneurial-friendly laws, regulations, policies and incentives can conspicuously reduce barriers to productive or innovative entrepreneurial activity (Baumol et al., 2009). In other words, where there are favourable regulatory environments, individual resources can be used more effectively to recognise, evaluate and exploit entrepreneurial opportunities (Lim et al., 2016). Related to this, Agostino et al. (2019) suggest that a high-quality regulative institutional

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control of governments (see North, 1990; Busenitz et al., 2000; Santos et al., 2019; Boudreaux and Nikolaev, 2019).

environment may reduce the risk associated with entrepreneurial choice by facilitating the realisation and relevance of relevant returns and encouraging individuals to invest their human and social capital in innovative entrepreneurial activities.

Researchers point out that the regulative dimension can mediate the development and expansion of innovative entrepreneurial intentions by facilitating entrepreneurs' access to resources and opportunities, ensuring the protection of property rights, simplifying procedures for access to employment, loans, subsidies, taxes and markets, and defining the necessary policies and measures (Urbano and Alvarez, 2014; Li et al., 2019). Also, a stable legal framework with well-protected property rights eliminates uncertainty in the market while at the same time creating an atmosphere of trust for entrepreneurial activities that promote entrepreneurial flexibility and facilitates innovation (Williams and Vorley, 2015). Parallel to this, Kasper et al. (2012) assert that economic freedom and property rights protection ensure a more suitable business environment that promotes innovative entrepreneurial activity. Equivalently, a high-quality institutional environment characterised by low regulation levels, minimal government intervention, and secure intellectual and private property increases individuals' likelihood of starting opportunity-driven (fast-growing and more innovative) businesses (Nikolaev et al., 2018).

Summing up, the quality of the regulative dimension significantly affects the type and level of entrepreneurship. However, to understand more clearly the impact of this dimension on innovation-oriented entrepreneurship, subsequent sub-sections provide crucial information on the effects of the critical elements of this dimension, such as bureaucratic procedures, financial capital, property rights, economic freedom, taxation, and corruption on innovative entrepreneurship activities (for more empirical evidence see Appendix Table 2.1A and 2.1D).

Table 2.2 The Effect of the Regulative Dimension on Innovative Entrepreneurship

Dim. of Inst.	Components of the Regulative Dimension	Effects	Sources
Regulative Dimension	*Regulations-Bureaucratic Procedures*	The more cumbersome and costly bureaucratic procedures are, the more suppressed innovative entrepreneurial intentions.	Stenholm et al. (2013), Elert et al. (2017), Urbano et al. (2019), Fuentelsaz et al. (2020), and so forth.
	Financial Capital	The more diverse and accessible financial resources are, the higher the level of innovative entrepreneurship is likely to be.	Sonmez and Toksoy (2014), Bozkurt (2019), Kumar and Borbora (2019), and so forth.
	Property Rights	The stronger the protection of property rights, the more vibrant the desire for innovative entrepreneurship.	Harper (2003), Estrin and Mickiewicz (2010), Raza et al. (2018), and so forth.
	Economic Freedom	The greater the economic freedom, the higher the level of innovative entrepreneurship.	Fuentelsaz et al. (2015), Nikolaev et al. (2018); Bennet (2020), and so forth.
	Taxation	The lower the corporate tax and the higher the income tax, the more likely it is that innovative entrepreneurship will emerge.	Torrini (2005), Bergmann (2011), Brieger et al. (2020), and so forth.
	Corruption	The higher the level of corruption, the lower the level of innovative or productive entrepreneurship.	Pathak et al. (2015), Aparicio et al. (2016), Ghura et al. (2019), and so forth.

Regulations-Bureaucratic Procedures

In the entrepreneurship literature, entry regulations, also known as bureaucratic procedures, are widely accepted as the prominent regulative institutions that substantially affect the formation and development of innovative entrepreneurial activities, creating the entrepreneurial ecosystem and culture. In many countries, entrepreneurs are faced with entry regulations that involve numerous and expensive administrative procedures, such as entry restrictions, trade regulations, and certain standards, to operate under legal standards (Escandón-Barbosa et al., 2019). However, researchers argue that cumbersome, excessive and costly entry regulations and procedures suppress entrepreneurial intentions and thus negatively affect the development of entrepreneurial spirit (Elert et al., 2017; Audretsch and Belitski, 2017). This argument is further supported by several authors, such as van Stel et al. (2007), Urbano and Alvarez (2014), Urbano et al. (2019), among others, who assert that entrepreneurs can be discouraged from starting an innovative business if they

are subjected to many rules and procedures. Similarly, entrepreneurs who are constrained by the bureaucracy combined with many local regulations, procedures and time requirements will have less intention to launch an innovative venture (McMullen et al., 2008). In other words, a more significant number of administrative requirements are seen as a barrier to innovative entries (Klapper et al., 2006) and are considered detrimental to new and existing business activities, especially small businesses (Torrini, 2005), thus mainly hindering the creation of new and innovative firms. According to Sambharya and Musteen (2014), dealing with a complicated administrative process can be an additional obstacle that may deter some individuals from participating in entrepreneurial activities. Moreover, people who have the appropriate capacity to start a new opportunity-oriented (innovative) business may be negatively affected by high transaction costs and heavy bureaucratic processes and may abandon their business ideas (Aparicio et al., 2016).

On the contrary, more effective and lighter bureaucratic procedures trigger the establishment of suitable business environments and ecosystems for entrepreneurs, and thus the proliferation of entrepreneurial activities, in general, innovative entrepreneurship, in particular (Estrin et al., 2013; Stenholm et al., 2013). For this reason, in recent years, most governments have focused on simplifying and reducing entry regulations or bureaucratic procedures, which include the time, permits and licenses and the associated costs required to start an innovative business, on stimulating and support innovative entrepreneurial activities (Van Stel et al., 2007). According to Fuentelsaz et al. (2020), the simplification of administrative procedures is particularly beneficial for the most ambitious entrepreneurs, as higher growth prospects require formalisation of their situation. Otherwise, it is not easy for them to do business unnoticed by the government, and they need the protection offered by the official registration. In this sense, making reforms in the bureaucratic and regulatory framework to trigger new ventures is vital to create an efficient entrepreneurship ecosystem.

Financial Capital

Many entrepreneurship researchers indicate that the availability of, and access to, financial resources (i.e., equity capital, bank loans, angel investors, venture capital, leasing, factoring, etc.) is critical for the formation and development of innovative entrepreneurial activities (see Rusu and Roman (2017), Elert et al. (2017), Urbano et al. (2019); Kumar and Borbora (2019), Fuentelsaz et al. (2020)). However, numerous studies in different contexts suggest that individuals with entrepreneurial intent often have insufficient equity and limited access to financial resources, so diversification and abundance of financial resources are vital for facilitating and supporting innovative entries (Sonmez and Toksoy, 2014; Bozkurt, 2019). In this sense, the financial structure can be an obstacle to creating new businesses; that is, individuals having limited access to financial capital cannot implement their business ideas and thus may not engage in the innovation process. According to Elert et al. (2017), in the EU countries, after bureaucratic procedures, financing was ranked by entrepreneurs as their second most important concern.

Scholars also point out that the vast majority of start-ups initially meet their financial needs from their immediate surroundings (e.g., spouses, parents, and friends) but still need additional financial resources, so the availability and accessibility of regional financial resources can play a vital role in the development of regional innovative entrepreneurship activities (Gompers and Lerner, 1999). Likewise, Fuentelsaz et al. (2015) argue that the more developed financial markets are, the easier access to financial capital (credit or other financial instruments), which significantly encourages all types of entrepreneurial activity, especially opportunity-driven (innovative) entrepreneurs. In parallel, He and Tian (2020) argued that the development of an economy's markets and financial systems directly affects the financing of firms trying to engage in innovative activities and thus their ability to innovate.

Accordingly, government programs that focus on providing financial support to increase entrepreneurial activity in the policy area can facilitate access to bank loans

by reducing capital requirements, encouraging the creation of investment firms, and providing low-interest loans and loan guarantee programs (Spencer and Gomez, 2004; Urbano and Alvarez, 2014). Researchers state that the consistency in such policies can play an influential role not only in the start-up process but also in the continuation of the activities of enterprises during the growth, expansion and innovation phases (von Broembsen et al., 2005). Indeed, better financial intermediaries increase the chances of successful innovation and knowledge diffusion, so areas with high levels of financial access and influential institutions encourage the growth of innovative industries that are heavily dependent on external finance (Mthanti and Ojah, 2018) (for more empirical evidence, please visit Appendix Table 2.1A and 2.1D).

Property Rights

Intellectual property regimes are institutions created by societies that grant intellectual property rights (IPRs) to protect individuals' rights with inventions or innovations and to ensure that they benefit from their short-term monopoly revenues, and mainly to promote innovation activities in society (Alexander, 2012). Harper (2003, p.74) has portrayed the private property institution as an important psychological dimension that enhances personal internal control and sense of agency, thus keeping entrepreneurial alertness alive. In general terms, strong property rights refer to reasonable restrictions imposed on society's socio-economic life, created by decisions made by the government's executive body and an independent and effective judicial system (Estrin and Mickiewicz, 2010). According to Harper (2003), property rights guarantee the status quo for entrepreneurship and include the 'find and hide' component necessary for aspects of entrepreneurship related to discovery, innovation, and creation of new resources.

In the literature, it has been argued that property rights positively affect all economic activities, including innovative entrepreneurship. For example, Hall and Ziedonis (2001) suggested that the strength of intellectual property rights affects firms' propensity to patent, so firms are more likely to obtain patents when they perceive

that they can protect their intellectual property. Similarly, in societies with well protected and enforced property rights, the rule of law and effective legal systems, entrepreneurs have a higher motivation to start innovative activities (Levie and Autio, 2011).

On the contrary, weak property rights undermine entrepreneurs' willingness to invest and innovate (Johnson et al., 2002). Further, Raza et al. (2018) claim that insecure intellectual property rights lead to a high motivation loss on innovative entrepreneurs, who have a lot to lose if their innovations are not secured. In other words, they argue that innovation may be suppressed due to the low expectations of earnings from innovative entrepreneurial activities in countries where intellectual property right is not adequately protected

On the other hand, some researchers have highlighted instances where overly strong property rights protections can also harm innovative entrepreneurship activities (Gans and Persson, 2013). By way of example, in recent years, over-protective intellectual property rights strengthened in the United States have increased both the risks and costs, particularly concerning innovative entrepreneurial activities (Acs and Sanders, 2012). Hence, strict intellectual property rights facilitate and support innovative entrepreneurial activities, whereas weak or too strict ones can thwart new venture intentions (Raza et al., 2018).

Economic Freedom

The relevant literature emphasises the importance of economic freedom, manifested through a stable legal system, secure property rights, the rule of law, trade liberalisation, and a freely functioning price mechanism, which has an impact on determining the type and level of entrepreneurship (see Fuentelsaz et al., 2015; Raza et al., 2018; Nikolaev et al., 2018). Previous research, which focused on economic growth, found that economic and political freedom positively affect economic growth (i.e., Leblang (1996)). On the other hand, subsequent research has shown that entrepreneurial activities, which are regarded as the primary source of economic growth, innovation and employment, are greatly affected by economic freedom

(Verheul et al., 2002). Moreover, Boettke and Coyne (2009) indicated that economic freedom provides incentives for productive or innovative entrepreneurship and stimulates economic growth.

Economic freedom allows entrepreneurs to enter and compete freely in the markets without undue interference from the government, which means lower transaction costs and less uncertainty (Bradley and Klein, 2016). It also reduces transaction costs faced by entrepreneurs under uncertainty (Bjørnskov and Foss, 2016), and gives entrepreneurs the right to freely use their time, skills and resources to seize perceived business opportunities (Bennett, 2020). Therefore, economic freedom encourages innovative entrepreneurial activities by reducing the risks, uncertainties and transaction costs in the market resulting from government intervention (Baumol, 1990; Bennett, 2020). For instance, Nikolaev et al. (2018) found economic freedom as a positive and significant determinant of opportunity-driven (or innovative) entrepreneurship (see more empirical evidence in Appendix Table 2.1A and 2.1D).

On the other hand, if economic activities in certain sectors or industries are nationalised, the scope of entrepreneurial activities in these areas will be restricted as nationalisation often means a public monopoly (Bjørnskov and Foss, 2016). In this sense, Bjornskov and Foss (2006) found that the size of the government[4] restricts the development of entrepreneurial activities in general, innovation-oriented entrepreneurship in particular. Several scholars imply that in societies with lower economic freedom, entrepreneurs with highly specialised knowledge, skills and strong self-efficiency cannot adequately exploit their potential (Aidis et al., 2012), and thus start an innovative venture. In other words, as economic freedom is low, entrepreneurs will be less likely to start an innovative business, even if they have strong skills, self-efficacy beliefs and experiences, and even if they get a significant

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[4] Classical-liberal scholars have often used the size of the government as a good measure of economic freedom, due to the government's intervention in the economy through consumption, transfer programs, investments, and taxation.

business opportunity because the increased government size in the future can significantly reduce their profit margins (Wood et al., 2016).

Taxation

As one of the regulative institutions, taxation has emerged as an essential factor determining entrepreneurial activities' level and type in recent years. Elert et al. (2017) put forward that the tax system's scope and design influence the net return of entrepreneurship both directly or indirectly and the prevalence and activities of other actors in the ecosystem. It also determines the possible risks and rewards of potential entrepreneurs and, consequently, the likelihood of starting an innovative entrepreneurial activity. Torrini (2005) suggests that governments play an essential role in determining incentives individuals face when choosing their employment statuses and determining the distribution of labour between market and non-market activities in modern economies. In fact, taxation and regulation largely determine the distribution of labour between wage employment and self-employment.

However, there is no clear conclusion about the relationship between taxation and entrepreneurial activities in the literature. It is widely accepted that the link between the two phenomena is complex and even paradoxical (Verhul et al., 2002). The relationship between the level or type of entrepreneurial activity and taxation differs according to corporate tax and individual income tax changes. Based on the findings in the literature, two inferences can be made. On the one hand, high corporate income tax slows down or inhibits individual entrepreneurial intentions and new firm formation; on the other hand, high personal income tax pushes individuals to start new businesses and thus can increase innovative entrepreneurship.

Indeed, previous studies reveal different results regarding the relationship between taxation and regional/national entrepreneurship. Researchers point out that when the individual income tax rate is higher than the corporate income tax rate, people with high individual income tend to reclassify their income as corporate income rather than individual income (Bergmann, 2011). Thus, higher personal income taxes can push individuals to start an innovative and new business activity, which may increase

the level of total entrepreneurial activity. However, these results are inconsistent with Davis and Henrekson (1999), who found a strong relationship between the higher personal income tax rate and the low level of self-employment and small firms in Sweden.

On the other hand, Bruce and Gurley (2005) found that a reduction in the marginal tax rate can increase the likelihood of starting a new business. Similarly, other researchers have highlighted the importance of reducing the tax burden both to increase entrepreneurial intentions and to facilitate and accelerate the transition to other processes of entrepreneurship (e.g., growth, R&D, and innovation) (Klapper et al., 2006; van Stel et al., 2007; Brieger et al., 2020)

Further, examining the impact of US states' corporate taxation policy on firms' innovation activities, Mukherjee, Singh and Žaldokas (2017) found that firms respond to tax increases by introducing fewer new products to the market, as well as reducing R&D and patenting activities. In the same vein, Atanassov and Liu (2020) revealed that while large corporate income tax cuts increase corporate innovation, tax increases also negatively affect innovation activities (see more empirical evidence in Appendix Table 2.1A and 2.1D).

Corruption

Corruption has been identified as a critical outcome variable reflecting all institutional weakness in the economy, such as excessive and non-transparent regulatory institutions, cumbersome bureaucracy, a weak judiciary, insecure property rights, arbitrariness and weakness in state administration, heavy tax burdens, as well as deterioration in moral values, norms and behaviour (Estrin and Mickiewicz, 2010). Thus, corruption could be considered an essential indicator of institutional quality (Tanzi, 1998), so it is assumed that it plays a significant role in forming and developing innovative entrepreneurship (Ghura et al., 2019).

Since corruption increases uncertainty in the economy and reduces entrepreneurs' gains, it prevents the realisation of entrepreneurial intentions and the rise and

expansion of innovation-oriented entrepreneurial activities (Aidis and Mickiewicz, 2006). Further, Dreher and Gassebner (2013) found that corruption weakens the entrepreneurial entry dynamic. In a similar vein, Pathak, Xavier-Oliveira and Laplume (2015) argue that corruption erodes economic freedom by harming trusts in economic relations.

Researchers also put forward that the impact of weak institutions on economic activities can be more devastating where corruption is higher (Klapper et al., 2006). Thus, entrepreneurship development may be more adversely affected in countries or regions with high levels of corruption. For example, Estrin and Mickiewicz (2010) noted a correlation between high corruption in Russia and Belarus and a low level of entrepreneurship aspiration and a lack of confidence in starting a new business.

Therefore, as suggested by numerous studies, in the long run, corruption will harm innovative entrepreneurial activity and consequently economic development (see Estrin et al., 2013; Pathak et al., 2015; Aparicio et al., 2016; Ghura et al., 2019). However, because it promotes trust in the business environment, controlling corruption can encourage entrepreneurial activity and innovation (see also more empirical evidence in Appendix Table 2.1A and 2.1D).

2.2.2   Normative Institutions and Innovative Entrepreneurship Activities

Normative institutions consist of values that indicate what is preferred and appropriate and norms that define how interactions and works will be done consistently with these values, all of which determine the basic rules that people in a society will consciously follow (Scott, 2013). Normative dimension exerts an influence on individuals or organisations to comply with social obligations about what they should do (March and Olsen, 1989). In this respect, Cialdini (2007) suggests that individuals' economic choices are affected by both descriptive norms (i.e., referring perceptions of what behaviours are typically carried out) and injunctive norms (i.e., involving perceptions of what actions generally are approved

or disapproved). In other words, the normative institutions cover patterns of behaviour adopted through various social interactions (Busenitz et al., 2000), and show what is valued or approved by society (Lipset, 2000).

Understanding the normative institutions is, therefore, critical to clarifying how societies perceive, accept and value entrepreneurship (Puffer et al., 2010), as well as create a cultural environment in which innovative entrepreneurship is encouraged and supported. As presented in Table 2.3, several studies have revealed that normative institutions play a crucial role in explaining different types and levels of entrepreneurship (see, Arasti et al., 2012; Lim et al., 2016; Williams and Vorley, 2015; Grillitsch, 2018; Li et al., 2019; Sedeh et al., 2020), (see also more empirical evidence in Appendix Table 2.1B and 2.1D). In this regard, Grillitsch (2018) argues that normative institutions defined as traditions, customs and norms that permeate society greatly affect innovative entrepreneurship activities. Wennekers (2006) also suggests that many historically rooted cultural and normative institutional differences contribute to explaining variations in entrepreneurship. Thus, normative institutions are concerned with the level of admiration of entrepreneurship, creativity and innovation (Busenitz et al., 2000).

Indeed, this dimension reflects the degree to which starting a new business is considered as a desirable career choice in society, as well as the general status of and the respect towards entrepreneurs (Urbano and Alvarez, 2014; Lim et al., 2016). In other words, normative institutions determine whether entrepreneurial activities are appreciated and supported in society (Nguyen et al., 2009). Accordingly, if a group's social norms and beliefs accept and promote entrepreneurial activity, entrepreneurial intentions in that society will be abundant (Krueger et al., 2000).

Authors argue that some societies' normative institutions can facilitate and encourage entrepreneurship, while others may, often unconsciously, hamper entrepreneurial aspirations (de Soto, 2000; Baumol et al., 2009). For example, developed market economies, in general, tend to view entrepreneurial activity in positive terms, as innovative actors that provide the vital driving force that

strengthens economic growth, whereas in emerging economies, the normative burdens are often heavier, as entrepreneurial activities have a historically negative connotation (Bruton et al., 2010). This is consistent with Estrin and Mickiewicz (2011), asserting that informal institutions in many transition economies, which make little distinction between entrepreneurs and criminals, are mainly against entrepreneurship. Vorley and Williams (2016) explain this situation as follows: the fact that entrepreneurship is considered illegal in most centrally planned Central and Eastern Countries partly explains the continuing scepticism towards entrepreneurs. However, it should be noted that there are some examples of successful changes in informal institutions. For instance, institutional improvements in Georgia have led to a positive transformation in social values and norms towards entrepreneurship while also making it a more entrepreneur-friendly country than many EU and non-EU countries (Williams and Vorley, 2015). On the other hand, it is worth noting that changing negative perceptions of entrepreneurs is not easy at all; it can take a long time because norms and values transferred from one generation to the next are often resistant to change (Estrin and Mickiewicz, 2010; Welter and Smallbone, 2011). That is, since there is a path-dependent process in normative institutions, the judgments formed in previous generations are usually passed on to the next generations without much change, which explains the differences in acceptance, desire, appreciation and perception of innovative entrepreneurship between countries and regions.

Parallel to this, researchers argued that societies deliberately or unknowingly create norms to support or prevent entrepreneurial activities (De Clercq et al., 2010). For instance, individuals in a particular area where the perception regarding entrepreneurship has been historically negative may believe that starting a new business is not a desirable career choice. It is also claimed that individuals are likely to be reluctant to direct their financial and human capital to entrepreneurship in societies where dominant norms associate their entrepreneurial activities with parasitism and profiteering (Manolova et al., 2008).

Contrarily, individuals may be more willing to use their personal resources to explore, evaluate and exploit innovative entrepreneurial opportunities in societies

where entrepreneurial activities are seen as valuable (Busenitz et al., 2000). Similarly, it is argued that effective institutions and a culture that supports entrepreneurship enable economic actors to take advantage of perceived business opportunities (Sautet and Kirzner, 2006). This is because culture shapes what individuals perceive as opportunities, thus affecting entrepreneurs' creativity, judgment and interpretation (Verheul et al., 2002).

Furthermore, Veciana and Urbano (2008) point out that a favourable normative environment lends legitimacy to entrepreneurial activities by providing social acceptance of entrepreneurial behaviour. Thus, regions with encouraging and supportive normative institutions and culture in terms of entrepreneurship can gain a significant competitive advantage by promoting skills, talents and investments (Turok, 2004). Moreover, supportive norms can alleviate the legal obligations for the development of innovative entrepreneurship, as well as facilitate their access to various resources and markets, thus making entrepreneurship sustainable (Stenholm et al., 2013; Li et al., 2019). Some researchers suggest that regions with strong entrepreneurial traditions will have a competitive advantage if they can sustain and transmit this from generation to generation over time (Huggins and Williams, 2011). In this context, considering that entrepreneurship is self-reinforcing by its nature, they can concentrate geographically in a region affected by interactions in the social environment (Minniti, 2005). In other words, the culture, norms, values, mores and beliefs created in a social setting can trigger the geographic concentration of entrepreneurial and innovative activities (Werker and Athreye, 2004). Other researchers have also noted that societal feelings toward entrepreneurial activity are critical to the supply side of entrepreneurship, meaning that individuals need to feel supported by society to have an entrepreneurial intention (Wennekers, Uhlaner and Thurik, 2002).

To sum up, as Davidsson and Wiklund (1997) suggest, the impact of normative institutions on innovation-oriented entrepreneurship can be explained in two ways. First, it concerns social legitimacy or a supportive social environment perspective; that is, the prevailing norms, values, beliefs and expectations can more or less

encourage individuals to start an innovative business, with or without legitimising entrepreneurial activities. Also, Sine and David (2010) suggest that the more legitimate entrepreneurs' efforts are normatively, the less resistance they will encounter, and the more support they will have to achieve their goals. That is to say, the resistance shown to entrepreneurs' efforts and the relative success of their efforts will, to some extent, be a function of the degree of compliance of entrepreneurial activities with accepted norms and values. Second, it is related to culture, particularly entrepreneurship culture; namely, as entrepreneurship triggers more entrepreneurship, regions with higher entrepreneurship levels are expected to have higher rates of new business formation. According to the authors, social habits, that is, entrepreneurial memory can lead to entrepreneurial intentions in individuals (Arasti et al., 2012). In a similar approach, Sine and David (2010) argue that the normative dimension affects who will become an entrepreneur or not; therefore, they suggest that career paths, a significant normative force, directly or indirectly affect innovative entrepreneurial activities.

As a consequence, since innovation is a long-term, risky and opaque process that requires an adventurous spirit, patience and persistence, the social norms and ideologies underlying the actors' thinking about innovation as well as the cultural backgrounds of the actors involved in the innovation processes play vital roles in shaping the processes and results of innovative entrepreneurial activities (He and Tian, 2020).

Culture

Culture is considered under informal institutions because institutional theory defines informal institutions as cultural norms and customs that define individual behaviour and actions (Fritsch and Wyrwich, 2014). In this sense, normative institutions, which are considered as a sub-dimension of informal institutions, also include culture. Considering its closeness with normative institutions, the effect of culture, which has a wide area in the literature, on innovative entrepreneurship activities is included in this subsection.

Many researchers point out that since cultural values are usually acquired from early life, they tend to be programmed in individuals, thus leading to the emergence of behavioural and thought patterns that are consistent with the cultural context and become stereotyped over time (Hofstede, 1980; Mueller and Thomas, 2001; Wennekers, 2006). Hence, cultural differences in interpretation and perception lead to the emergence of different patterns of behaviour and thus consequences (Chrisman et al., 2002, p. 115).

Sargut (2001) suggests that cultural values and attitudes differ from society to society, and thus, different cultural groups may exhibit different behaviours under similar conditions. As Bergmann (2011) suggests, each group of people whose behaviours and thoughts differ from other groups have their own culture. Therefore, people belonging to different groups and categories in society are found in different cultural strata. That is, different ethnic, religious, gender, age, occupational, organisational, as well as regional sub-cultures often exist under a national culture (Hofstede, 2001).

However, it is worth noting that although cultural values differ from one society to another, they can remain constant in a community for a long time. This stability depends mainly on the existence of dominant cultural values (Dogan, 2016). On the other hand, Hofstede (2001) suggests that cultures will undoubtedly change in the long run, but differences between communities will remain largely intact. That is, while cultures change the form, their differences do not disappear completely. Hofstede (1980) describes the process of cultural change in three different ways: zeitgeist effects (i.e. changes in values caused by external shocks such as war, technological revolution and epidemics), generation effects (i.e. change in cultural values due to the change of generations), and maturity or seniority effects (i.e. individuals' values change due to the responsibilities they undertake due to age or seniority). Based on the above claims, Lim et al. (2016) suggest that although culture is slow to change entrepreneurial activity, it can create its own feedback cycle by slowly pushing the community towards a more entrepreneurial culture. That is, the more entrepreneurs in a region, the higher the exposure of people to

entrepreneurship, the higher the acceptance of entrepreneurship as an alternative to wage employment, and thus, the more likely people are to start innovative ventures (Lim et al., 2016). Freytag and Thurik (2007) argue that cultural values shape the environment in which business is conducted. Thus, cultural differences in which individual values and beliefs are embedded are presumed to affect a wide range of behaviours, including the decision to become self-employed rather than work for others (Mueller and Thomas, 2001).

Table 2.3 The Effect of the Normative Dimension on Innovative Entrepreneurship

Dim. of Inst.	Comp. of the Norm. Dim.	Sub-dimensions of the Norm. Dim.	Effects	Sources
Normative Dimension	*Norms, Values, Beliefs, Traditions, Customs, Expectations, and so on…*		The more normative institutions recognize and value entrepreneurship as a legitimate and desirable career and status, the more they can encourage innovative entrepreneurship activities.	Arasti et al. (2012), Lim et al. (2016), Williams and Vorley (2015), Sedeh et al. (2020), and so forth.
	Culture	*Collectivism-Individualism*	The more individuality is preferred over collectivism in a society, the higher the likelihood that innovative entrepreneurship will occur.	Hofstede (1980, 2001), Triandis (1995), Lim and Park, 2013, Tian et al., 2018, and so forth.
		Uncertainty avoidance	The higher the level of uncertainty and risk aversion, the lower the level of innovative entrepreneurial intentions.	Hofstede (2001), Li and Zahra (2012), Fuentelsaz et al. (2018), and so forth.
		Power distance	The higher the power distance, the lower the level of innovative entrepreneurship.	Shane (1993), Mueller and Thomas (2001), Dogan (2016), and so forth.
		Masculinity	The higher the masculine values in a culture, the higher the inclination to innovative entrepreneurship can be.	McGrath et al. (1992); Hofstede (2001), and so forth.
		Long- or short-term orientation	The more long-term orientation prevails in a culture, the more prevalent innovative entrepreneurial activities can be.	Hofstede (2001), Fritsch and Wyrwich (2014), and so forth.

Basically, there are three views on culture's impact on (innovative) entrepreneurial activities (Wennekers, 2006). The first view explains the association between culture and entrepreneurship with the 'aggregate psychological trait', that is; the more people in a society with 'entrepreneurial values', the higher the likelihood of individuals in that society to become (innovative) entrepreneurs (Freytag and Thurik,

2007). The second view is concerned with the extent to which entrepreneurship in culture is 'legitimised' or 'morally approved' (Etzioni, 1987). In other words, the higher legitimacy of entrepreneurship in a culture means that entrepreneurship is encouraged and supported in various fields and in a comprehensive way, such as appreciation of entrepreneurship and having a high status, more integration of entrepreneurship in the education system, and promotion of people who intend to start a new business through various government policies and measures (Etzioni, 1987). In this regard, recent studies have found a positive relationship between a high level of social acceptance and approval of entrepreneurship and self-employment rate (Kibler et al., 2014). The third view refers to the power of 'pushing' individuals to (innovative) entrepreneurship. This view suggests that differences in entrepreneurship may arise from differences in beliefs, behaviours, values and opinions between 'potential entrepreneurs' and 'other individuals' in a region (Noorderhaven et al., 2004). According to this view, in a region dominated by a non-entrepreneurial culture, a conflict of values between these groups may push those with entrepreneurship intention from wage-employment to self-employment. Thus, the third 'push' view is the opposite of the second 'legitimation' view (Freytag and Thurik, 2007).

On the other hand, using Hofstede's (1980) cultural dimension definitions, numerous studies in different fields have examined the association between different cultural dimensions and innovative entrepreneurship activities across countries or regions (see Appendix Table 2.1B and 2.1D). In this study, Hofstede evaluates countries' cultural structure as follows:

Individualism-collectivism refers to the degree to which individuals attribute their identities to themselves rather than their relationships to others in the group. (Hofstede, 2001). Individualistic cultures emphasise individual decision-making, accountability, rationality, rights, and contracts, while at the same time placing individual interests above the interests of the group (Triandis, 1995). In contrast, in collectivist societies, individuals see themselves as part of a group from birth and motivate themselves to achieve the interests of the group (Triandis 1995). In such

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cultures, individuals see themselves as interdependent, and thus more emphasis is placed on acting as a group rather than acting individually (Alexander, 2012). That is to say, "I" comes first in individualism, while "we" comes first in collectivism (Brieger et al., 2020).

Uncertainty avoidance refers to the extent to which members of a culture feel threatened by uncertain or unknown situations (Hofstede, 2001). This dimension also indicates to what extent society tolerates uncertainty, as well as individuals' attitudes towards risk and uncertainty. At the same time, uncertainty avoidance is negatively correlated with the desire for success (Hofstede, 2001).

Power distance refers to the distribution of power among individuals in society and the extent to which this distribution is made fairly, as well as the extent to which inequalities in the distribution of power are accepted and adopted (Dogan, 2016). Hofstede (1980) defined power distance as the degree to which less powerful members of a society accept power inequality. According to Dogan (2016), in communities where the power distance is low, individuals are free and independent, hierarchy is appropriate, and inequity is lacking; thus, individuals can have more just and equal rights. On the contrary, in societies where the power distance is high, individual freedoms are more limited, those who have power are more privileged, and power is accepted as a social reality (Hofstede, 2001).

Masculinity includes the roles of the sexes in society. In societies that prioritise masculine values, concepts such as success, competition and performance come to the fore, while in societies that attach importance to feminine values, values such as harmony, cooperation, solidarity, and equality come to the fore (Hofstede, 2001).

Long- or short-term orientation refers to societies' thoughts and behaviours about the past and the future. Hofstede (2001) stated that in cultures where long-term orientation is dominant, values such as individual harmony, regulation of relations according to a certain status, determination and common sense come to the fore; on the contrary, in cultures where short-term orientation is dominant, respect for traditions, attachment to the past, individual stability and non-status relations are at

the forefront. Therefore, while people invest in the future in the former, the past and present are considered more important than the future in the latter.

Many studies reveal that cultural dimensions are significant drivers of innovation and entrepreneurial activities (see Shane, 1993; Fuentelsaz et al., 2018; Grillitsch, 2018). Scholars suggest that countries with a cultural composition where power distance, individualism and masculine values are high, but uncertainty avoidance is low, may be more likely to support entrepreneurship and have higher entrepreneurial tendencies (Busenitz and Lau, 1996). In other words, entrepreneurs tend to exhibit high power distance, individualism and masculinity, and low uncertainty avoidance across cultures (McGrath et al., 1992).

In contrast, Shane (1993) found a positive relationship between lower power distance and innovation, as innovative knowledge is highly accessible for individuals in such cultures. Parallel to this, Mueller and Thomas (2001) found that cultures with higher levels of individualism and lower power distance and uncertainty avoidance favour innovative entrepreneurship activities more than cultures with collectivist and more uncertainty avoidance. Similarly, several researchers indicated that as individuals in the high-power distance culture lack the resources or opportunities to make decisions about innovation, incentives and support for innovation are weak in such cultures, limiting innovative initiatives (Lim and Park, 2013; Tian et al., 2018).

Consistent with this argument, Li and Zahra (2012) indicated that higher uncertainty avoidance and collectivism weaken the positive link between formal institutions and venture capital activities. Further, Liñán and Fernández-Serrano (2014) showed that in developed countries, cultures that attach more importance to individualistic values have greater entrepreneurial activities resulting from greater social legitimacy. Recently, Fuentelsaz et al. (2018) suggest that individualism and uncertainty avoidance seem to be two critical cultural dimensions that affect entrepreneurial intentions. Hence, the higher the uncertainty avoidance, which is closely linked to risk attitudes and consequently, entrepreneurial disposition, the less entrepreneurial a culture is (Neira et al., 2017).

To sum up, research shows that although there is a considerable amount of research on this topic, theories about how culture affects the innovative entrepreneurial process have not yet developed (Wennekers, 2006; Paul et al., 2017). However, it is worth noting that although the level of development is critical in determining the impact of culture on innovative entrepreneurial activities, cultures with values such as high individuality, masculinity, long-term orientation and low uncertainty avoidance and power distance are more open and prone to innovative thoughts and ideas. Thus, such cultures lead innovative entrepreneurial activities and often have a positive relationship with them.

2.2.3 Culture-cognitive Institutions and Innovative Entrepreneurship Activities

The culture-cognitive dimension represents the concepts, knowledge and socially formed mindset shared by individuals in a particular place (Kostova and Roth, 2002). This dimension, which mediates between the external world's stimulus and the individual organism's response, actually represents a collection of internalized symbolic representations of the world (Scott, 2013). In addition, cognitive structures greatly affect individual behaviour, as they largely shape the cognitive programs that people use when selecting and interpreting information, namely, schemas, frames, and inferential clusters (Markus and Zajonc, 1985).

In the context of entrepreneurship, a number of studies show that culture-cognitive institutions play a key role in determining the levels and types of regional entrepreneurship because the perception of a community regarding entrepreneurs may lead to support or prevent entrepreneurial activity, in general, innovative entrepreneurship, in particular (see Table 2.4). Since the culture-cognitive dimension is subtle and powerful, it underpins many of the challenges and opportunities that innovative entrepreneurs face (Sine and David, 2010).

The cognitive dimension reflects individuals' experiences, abilities, knowledge, perceptions, and confidence required to seize new and innovative business opportunities and start innovative activities (Busenitz et al., 2000; De Clercq et al., 2010). That is to say; this dimension reflects the extent to which knowledge and skills about the entrepreneurial process are spread (Busenitz et al., 2000). In this respect, it has been suggested that perceptions of entrepreneurial talent, which can affect individuals' realistic intentions and attractiveness regarding innovative entrepreneurial activities, are based on their relevant knowledge, experience, and skills (Roy, Akhtar and Das, 2017). Regarding these, Roxas et al. (2008) argue that compared to those with less entrepreneurial knowledge, individuals with more entrepreneurial knowledge think entrepreneurship and innovation activities are more attractive and valuable to society, as they consider entrepreneurship as having a higher social status, respect and perceive less embarrassment from failure.

In some countries, information on how to start a new venture may widely dispersed, while in others, individuals may not have enough basic knowledge, skills and experiences on how to exploit entrepreneurial opportunities or to start a new business (Virgill, 2008). In this regard, numerous researchers pointed out that there are broad variations in the availability of such entrepreneurial knowledge and skills between countries and even regions of the same country (Manolova et al., 2008; Lim et al., 2016). For example, Danis and Shipilov (2002) revealed that knowledge of entrepreneurship is historically scarce in most countries ruled by socialist regimes that previously disregarded or restricted private sector entrepreneurial activity. Manolova et al. (2008) provided additional evidence, demonstrating that some developing countries such as Bulgaria, Hungary and Latvia have higher education levels but lower levels of entrepreneurship due to low entrepreneurial abilities and self-confidence. Similarly, Dana (2000) argue that even in some countries where entrepreneurship has not been historically hindered, the state's widespread presence in the economy and longstanding social patterns prevented adequate dissemination of entrepreneurial knowledge across the country. As a result of these historical and institutional legacies, countries may vary in terms of the burdens caused by culture-

cognitive institutions as reflected in availability or lack of information and resources necessary to exploit business opportunities, and the presence or absence of general belief and confidence that (innovative) entrepreneurship is an appropriate career path (Spencer and Gomez, 2004).

Table 2.4 Insert Table Caption Here

Dim. of Inst.	Comp. of the Cul. Dim.	Sub-dimensions of the Cul. Dim.	Effects	Sources
Culture-cognitive Dimension	*Socially shared concepts, knowledge, templates and scripts.*		The higher the level of knowledge, experience, skills and confidence in entrepreneurship, the lighter the cognitive burdens or barriers to launching an innovative enterprise.	Busenitz et al. (2000), De Clercq et al. (2010), Roy et al. (2017) and so forth.
	Entrepreneurial Culture/ Climate	*Perception of Entrepreneurship*	The more common the positive perception of entrepreneurship, the higher the likelihood of realization of innovative entrepreneurial intentions.	Kabui and Maalu (2012), Fuentelsaz et al. (2015), and so forth.
		Role Model	The more successful entrepreneur role models, the higher the desire and level of innovative entrepreneurship.	Arenius and Minniti (2005), Kibler et al. (2014), Fritsch et al. (2019a,b), and so forth.
		Risk-taking (Uncertainty Bearing)	The higher the individuals' risk-taking and uncertainty-bearing tendency, the higher the likelihood of starting an innovative entrepreneurship activity.	Knight (1921), Ekelund et al. (2005), Lee et al. (2020) and so forth.
	Social Capital	*Networks*	The stronger the social networks, the easier the access to new knowledge, the greater the opportunity to start innovation entrepreneurship.	Davidsson and Honig (2003), Danis et al., 2011), Neira et al. (2017), and so forth.
		Trust	The more trust, the more knowledge sharing and cooperation, so the more innovative entrepreneurial activities.	Akçomak and ter Weel (2006), Demirdag (2015), Kodila-Tedika and Agbor (2016), and so forth.

In this regard, Danis, De Clercq and Petricevic (2011) point out that in cases where knowledge, experience, ability and confidence levels are high, the cognitive burdens to start an innovative business are light, whereas in the opposite case, the cognitive

burdens associated with innovative entrepreneurship are heavy. Likewise, many scholars suggest that a beneficial culture-cognitive environment contributes to the entrepreneurs' exploration and exploitation of business opportunities, the access to necessary financial capital and new markets, and the ability of individuals to acquire innovative techniques and methods through education and training (Stenholm et al., 2013; Urbano and Alvarez, 2014; Li et al., 2019).

Besides, culture-cognitive institutions determine individuals' subjective interpretations about the external symbolic frames by constructing specific cognitive features (Scott, 1995), so individual perception can be seen as an essential element of culture-cognitive institutions. In this regard, Hayton et al. (2002) suggest that the cognitive institutional environment affects how society views entrepreneurship and personal attitudes towards risk-taking and independent thinking. In the same vein, the natural beliefs surrounding how individuals in community understand and deal with risk and uncertainty also influence orientations towards change and innovation (Shane, 1993). In other words, the culture-cognitive dimension that affects the perception of individuals is significantly influential in determining the risk and confidence levels of entrepreneurs in working conditions characterized by high uncertainty and time constraints (Liñán, Santos and Fernández, 2011). Thus, while some culture-cognitive environments tolerate high levels of risk-taking by individuals under conditions of high uncertainty, failure is not usually stigmatized in such settings, but in others, the level of tolerance to risk-taking may be quite low, as failure stories are passed down from generation to generation.

To sum up, culture-cognitive institutions that refer to concepts, knowledge, schemes, assumptions and frameworks shared in a particular society or place play a vital role in shaping entrepreneurial perceptions, behaviours, knowledge, skills and abilities, eventually have a significant effect on the formation and development of innovative entrepreneurial activities. In other words, the more absurd and wrong to expect extraordinary entrepreneurial performance from societies lacking entrepreneurial knowledge and talent, the more natural and correct to expect societies with

entrepreneurial experience, talent and knowledge to have higher innovation-oriented entrepreneurship activities.

Entrepreneurial Culture/Climate

In recent years, a particular emphasis is given to entrepreneurial culture in entrepreneurship research. Wennekers and Thurik (1999) point out that as an essential component of regional culture, entrepreneurial culture stimulates start-ups activities. Previous research shows that entrepreneurial culture increases the number of entrepreneurs in a region by leading new enterprises (Audretsch et al., 2010).

Consistently, entrepreneurial culture creates a significant positive change in local people's attitudes towards innovation and entrepreneurship activities by providing legitimacy for entrepreneurial activities (Kibler et al., 2014). This social acceptance also means lower psychological costs (i.e., fear of failure) for new business formation and innovation process (Wyrwich et al., 2016). Further, researchers suggest that variations in the level of social legitimacy of entrepreneurship play an essential role in explaining regional entrepreneurship differences (Fritsch et al., 2019a,b).

In this line, several studies have indicated that the impacts of entrepreneurial culture on national or regional innovative entrepreneurship can be explained with the perception of entrepreneurship and role models (e.g., Wennekers, 2006; Liñán et al., 2011; Urbano and Turró, 2013; Fuentelsaz et al., 2015; Fritsch et al., 2019a,b), (see also more empirical evidence in Appendix Table 2.1C and 2.1D).

Perception of Entrepreneurship

As indicated in GEM (2010) report, perception plays a crucial role in entrepreneurial and innovation activities because people with positive perceptions of entrepreneurship are more likely to start a new and innovative business than those with negative perceptions. People's perception of entrepreneurship is determined by intrinsic (e.g. issues under one's control and such as a character) and external factors (e.g. environmental characteristics such as regulatory framework, values, beliefs and

culture) (Kabui and Maalu, 2012). Moy et al. (2003) suggest that these factors can affect anyone, but those who have a positive perception of entrepreneurship can perceive themselves as having enough knowledge, skills and experience to overcome the obstacles they may encounter in the entrepreneurship process.

On the other hand, research shows that two instruments, -the media and the education system-, play a crucial role in shaping people's perception of entrepreneurship. According to Urbano and Turró (2013), the media's stories are critical in the processes that lead to the emergence of new businesses by changing the perception of entrepreneurship in a place. They also suggest that success stories told by or about entrepreneurship lead to positive perceptions of entrepreneurship among potential entrepreneurs, venture capitalist and other institutional actors (such as banks, NGOs, local governments, and other government bodies). Accordingly, since the news in the media determines the agenda of public discourse, they create a reputation or opinion about entrepreneurship; that is, they create reputation accumulation (Rindova et al., 2007).

Like the media, the education system significantly influences individuals' perceptions and intention to start an innovative business. However, unlike the media, the education system contributes to the enhancement of individuals' skills and knowledge. Previous research has revealed that by instilling a great sense of independence and provide the necessary knowledge and skills, education system keeps people vigilant about seizing new job opportunities (Verheul et al.,2002), and thus stimulates the growth of opportunity-driven or innovative entrepreneurship (Fuentelsaz et al., 2015). Likewise, researchers underline that education plays an essential role in helping individuals recognise and evaluate opportunities in the market. At this point, Reynolds et al. (1999) highlight that the level of a country's entrepreneurial activity is strongly related to investments in higher education (Appendix Table 2.1C and 2.1D provide more empirical evidence on this association).

Role Model

There is a widespread belief in the literature that entrepreneurial role models in a region have a significant effect on the legitimacy of entrepreneurship and make it a valuable and desirable career choice (Arenius and Minniti, 2005). The main idea behind this argument is that entrepreneurial role models shape individuals' cognitive representations and entrepreneurship perceptions they observe in their social environment (e.g. parents, relatives, peers or neighbours) (Fritsch et al., 2019a,b). Likewise, Krueger (1993) argue that the presence of entrepreneurial role models strongly influences the cognitive representation of economic actors and triggers individuals' intention to start a new venture or innovative enterprise.

Thus, having examples of successful entrepreneurship in the social environment reinforces the entrepreneurial aspirations of potential entrepreneurs while at the same time providing them with information on how to organise resources and activities to create successful businesses (Sorenson and Audia, 2000). Furthermore, entrepreneurial role models in society help the acceptance and adoption of entrepreneurial behaviours and lifestyles, the increase in entrepreneurial self-efficacy beliefs, and the learning of entrepreneurial knowledge and skills (Fritsch and Wyrwich, 2014; Kibler et al., 2014). According to Fritsch et al. (2019a,b), visible entrepreneurial activities in a region create a perceptual spiritual externality that encourages start-up activities and enables entrepreneurship to strengthen itself. Therefore, as Gibson (2004) puts forward, the higher the number of role models in a social context, the higher the level of perceptions and tendencies that accept entrepreneurship as a desirable and valuable career choice.

Risk-taking (Uncertainty Bearing)

Risk and uncertainty, inherent in economic activities, lie at the heart of all entrepreneurial endeavours (Lee et al., 2020). In previous studies, entrepreneurs are defined as people who do not avoid taking the risk, even in uncertain environments, to continue their activities as required by their role in the economy (Knight, 1921; Ekelund et al., 2005). According to Knight (1921), the primary function of the

entrepreneur is to carry real uncertainty by making personal decisions in the face of unforeseen and unaccounted business losses (van Praag, 1999). Similarly, some authors argue that since uncertainty is a reality of economic life, entrepreneurs need to take risks, innovate and arbitrage to start new business activities (Wennekers and Thurik, 1999).

However, since attitudes such as avoiding risk and uncertainty are related to individuals, there can be great differences within and between groups of individuals. According to research based on within-group, individuals' degree of risk aversion varies (Ekelund et al., 2005), especially entrepreneurs perceiving starting a new business as less risky than non-entrepreneurs (Busenitz, 1999).

On the other side, there are significant differences between groups in tolerance levels and attitudes towards uncertainties, risks and failures due to their different cultural-cognitive institutions (Hofstede, 2001). As stated in previous sections, societies with more entrepreneurial perception, knowledge and talent may be more tolerant and optimistic against uncertainties, risks and failures because they are more prone to entrepreneurship. Thus, in societies with lower uncertainty avoidance, not only familiar but also unfamiliar risks are accepted, such as the willingness to start an unknown venture and changing jobs (Hofstede, 2001, p.146). In other words, low uncertainty avoidance is associated with greater risk assumptions and the search for job opportunities, as well as a positive assessment of uncertainty situations and optimism (Palich and Bagby, 1995).

Conversely, societies with more uncertainty avoidance have a lower risk-taking tendency, less tolerance to uncertainty, higher fear of failure (Hofstede, 1980; Fuentelsaz et al., 2018), and thus less intentions to begin innovative entrepreneurial activities. Similarly, in countries or societies with high levels of uncertainty avoidance, people tend to be sceptical of situations they perceive as unstructured, uncertain or unpredictable (Raza et al., 2018).

Hence, as uncertainty avoidance is closely related to risk aversion and resistance to change, cultures with high uncertainty avoidance tend to provide much less support

for innovative entrepreneurship activities (Shane et al., 1995). For these reasons, as suggested by Raza et al. (2018), individuals in societies with high levels of uncertainty and risk aversion are less likely to start ventures with radical innovation, even if they have a high level of entrepreneurial knowledge, skills, and experiences (see also more empirical evidence in Appendix Table 2.1C and 2.1D).

Social Capital

Especially in the last three decades, social capital consisting of several key components, such as trust, networks (association activities or membership including cooperation and participation), and civic norms, has become popular and frequently used in entrepreneurship research. According to Putnam (1995, p. 67), social capital is *"features of social life – networks, norms, and trust – that enable participants to act together more effectively to pursue shared objectives"*.

Accordingly, studies suggest that social capital is a source that individuals obtain from their social circles (e.g., family, friends, colleagues, and others), enabling them to access business opportunities and supports (Burt, 1997). Social capital, which points to social interactions at various levels in the entrepreneurship process, provides significant benefits to entrepreneurs both individually and socially (McKeever et al., 2014). On the one hand, social capital makes it easier for individuals to take advantage of other entrepreneurial role models, allowing individuals to receive advice, information and support about their new ventures. On the other hand, it plays a supportive role in individuals' access to education, experience and various resources. (Klyver et al., 2008).

The importance of social capital stems from its capacity to reduce frictions and uncertainties in market transactions significantly. That is, social capital can reduce substantially monitoring and transaction costs by fostering trust and shared values and encouraging collaboration (Karlsson, 2012). Besides, some studies have argued that social capital encourages the creation and development of innovation-driven entrepreneurship by enabling individuals to participate in business networks that provide access to codified local knowledge and resources (Bosma et al., 2004).

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Similarly, several scholars claim that it plays a facilitating role in overcoming difficulties in the entrepreneurship and innovation process by providing resource support, reducing uncertainties in the market, ensuring emotional support, as well as increasing awareness about entrepreneurship (Stam et al., 2014; Sahasranamama and Nandakumar, 2020).

Social capital is also associated with high levels of trust and reciprocity, which can further facilitate market transactions such as access to financial resources and loan payments (Putnam, 1995; Fukuyama, 1995). Therefore, as suggested by some studies, economic actors with low social capital may be more likely to encounter a lack of coordination, duplications effort, costly contractual disputes, as well as cumbersome transaction costs, information costs, decision costs, and bargaining costs (Maskell, 2000). Thus, social capital can play a critical role in the proliferation of entrepreneurship and innovation activities. For example, in their research on the relationship between social capital and innovation at the regional level, Lvery, Amara and Lamari (2002) found that social capital positively influenced innovation in the decision-making and innovation processes. Likewise, in her research for 20 countries, Kaasa (2009) found a powerful relationship between social capital and innovation at the regional level (see also more empirical evidence on this issue in Appendix Table 2.1C and 2.1D).

However, it is noteworthy that as civic norms, one of the vital dimensions of social capital, are adequately addressed in the 'Normative Institutions and Entrepreneurship Activities' section, only networks and trust issues will be discussed in the below sections.

Networks

Networks, one of the significant dimensions of social capital, are an essential instrument that enables actors to benefit from their social environment in various ways. Researchers argue that from an entrepreneurial perspective, social networks play a facilitating role in identifying, collecting and allocating scarce resources as well as the exploration and exploitation of opportunities (Davidssona and Honig,

2003; Eraydin and Armatli-Köroğlu, 2005), and thus stimulating innovative entrepreneurship activities.

In this regard, emphasizing associational activities, several studies have shown that by participating in voluntary associations such as professional associations, political parties, religious groups and trade unions, entrepreneurs can network with participants from various professions or cultural backgrounds, both within and outside their communities, which in turn, may encourage and facilitate the exchange of resources and knowledge needed to start a new business or become more innovative (Davidsson and Honig, 2003; Danis et al., 2011). Consistent with this, in their study on 59 countries, Dakhli and De Clercq (2004) found a positive relationship between the participation of economic actors in voluntary associations and the propensity to invest in R&D. Similarly, highlighting the importance of networks and collaborations, Fukuyama (1995) pointed out that an innovative climate has been created in Silicon Valley through formal and informal networks between small and medium-sized companies and partnerships and alliances with research universities.

Thereby, social networks are often regarded as sources of information for business opportunities and allow entrepreneurs access to additional resources such as financing, work experience, skilled labour market and consultancy service (Neira et al., 2017), which greatly support innovative entrepreneurship activities. (see also more empirical evidence on this issue in Appendix Table 2.1C and 2.1D).

Trust

Similar to networks, there has been a growing interest in trust in recent years due to its role in entrepreneurship and innovation activities. The role of trust in entrepreneurship is not new but rather essential. The research suggests that trust enables entrepreneurship by defining new opportunities (Davidsson and Honig, 2003; Audretsch et al., 2010) and providing access to resources (Honig et al., 2006). Likewise, some authors have found that trust is indispensable for the birth of new businesses, the growth of SMEs, as well as the development of innovation activities

(Bosma et al., 2004), (see also more empirical evidence in Appendix Table 2.1C and 2.1D).

To cover in this context more broadly, being culturally linked and multidimensional in nature, trust has been conceptualized as a driving force for promoting efficiency and productivity of economic activities (Doh and McNeely, 2012). Accordingly, trust, which is the basis of reciprocity, acts to alleviate inevitable friction in social life, reduce transaction costs and increase productivity (Putnam, 2000). Fukuyama (1995) suggests that trust stimulates increased interaction and cooperation within and between economic actors, thus fostering and facilitating the exchange of information, knowledge, resources, and skills among actors and reducing the need for intervention to prohibit fraud. At the same time, it is suggested that trust can encourage innovation activities within and among firms by increasing the production of new ideas through interaction and partnership, promoting freedom from a prescriptive regulative environment, and reducing the need for strict monitoring and control mechanisms (Dakhli and de Clercq, 2004; Akçomak and ter Weel, 2006; Demirdag, 2015). In other words, by reducing monitoring costs and time and increasing interaction and collaboration, trust can lead to increased innovative entrepreneurial activities (Doh and McNeely, 2012). For example, using cross-sectional data from 60 countries, Kodila-Tedika and Agbor (2016) found that trust has a strong and positive impact on entrepreneurial activities.

2.3 Conclusion

This section's primary purpose is to theoretically examine the relationship between institutions and innovative entrepreneurship, which are essential components of regional economic growth and development.

To reveal the relationship of institutions with innovative entrepreneurship activities and to understand more clearly how institutions determine the level and type of entrepreneurship in the region, this section started with the definition of institutions.

Throughout history, institutions have been defined in different ways, and there has been no consensus on the definition of institutions. However, in the literature, North (1990)'s two-dimensional and Scott (1995)'s three-dimensional definitions of institutions have gained wide acceptance. Claiming that institutions consist of formal and informal dimensions, North (1990) defined institutions as the rules of the game that affect individuals' all behaviours and interactions in society and offer them opportunities or constraints. According to North, formal institutions are a set of written rules such as constitution, laws, rules and regulations, whereas informal institutions are a set of unwritten rules determined by culture, customs, traditions, values, norms, beliefs and expectations. The main task of all these formal and informal institutions is to regulate people's political, economic, social, and cultural relations and eliminate any conflicts between them duly. In other words, these institutions are established to eliminate the uncertainties in socio-economic life, minimize the risks associated with them, and maintain order.

On the other hand, the pace of change of formal and informal institutions passed down from generation to generation by imitation or teaching is quite different. According to Williamson (2000), the change of informal institutions deeply embedded in society takes quite a long time, for example, between a century and ten centuries. Conversely, formal institutions, which are more open to human interventions, can change much more rapidly, for example, between ten and a hundred years.

It is also worth noting that formal and informal institutions cannot be considered independently; on the contrary, they are very closely related to each other. Many researchers have claimed that it would be laborious and costly to implement formal institutions, especially those incompatible with and conflict with the informal institutions (see Hume, 2000; Boettke and Coyne, 2009; Williams and Vorley, 2015; Su, 2020). Therefore, formal institutions consistent with the beliefs, norms, traditions, and value judgments of the society will be both easily applicable and long-term.

On the other hand, taking North's two-dimensional definition one step further, Scott (1995) suggests that institutions consist of three pillars or dimensions. In Scott's approach, institutions defined as the regulative dimension represent formal institutions, while the normative and culture-cognitive dimensions represent informal institutions. In particular, it is essential to understand the difference between the last two dimensions. The normative dimension includes norms, values, beliefs, as well as social structures and routines in society, while the culture-cognitive dimension refers to the cognitive structures, social knowledge, concepts, templates and scenarios shared by people in a community. In other words, the former includes social obligations, sanctions, and expectations regarding the appropriate actions of individuals, while the latter includes socially shared understandings. That is, the culture-cognitive dimension representing the cognitive programs, including inferences, schemas, and frameworks that people use in selecting and interpreting information, is largely shaped by normative institutions. Therefore, as illustrated in Figure 2.1, it is impossible to consider the dimensions of institutions, especially these two dimensions independently. All dimensions are closely related and affect each other significantly. For this reason, Scott's three-dimensional definition was adopted as a basis to reveal the various impacts of institutions on innovative entrepreneurial activities.

The literature review showed that all three dimensions of institutions are critical in determining both the type and level of entrepreneurship. The regulative dimension, which covers a wide area in the literature, identifies meaningful opportunities and constraints, especially for the formation of innovative entrepreneurship activities, with the laws, regulations, policies and incentives it contains. This dimension, which includes the rules about the functioning of the market, defines the rewards and penalties that profoundly affect the innovative entrepreneurship process. This dimension, which has been discussed in different ways in the literature, has been evaluated under six different headings in this study. First, *entry regulations or bureaucratic procedures* have greatly affected the formation and development of innovative entrepreneurial activities. That is, heavy and cumbersome bureaucratic

procedures and regulations that cause high costs, time, and efforts undermine entrepreneurial aspirations and intentions while restricting the proliferation of innovative enterprises in a region. The opposite is also possible, namely, that lighter and more efficient bureaucratic procedures can prevent individuals with entrepreneurial intentions from spending more time, money, and effort, which may encourage them to start innovative entrepreneurship activities. Second, given that most people with entrepreneurial intentions do not have sufficient initial capital, financial capital availability and accessibility are some of the major issues for entrepreneurship processes. In this sense, abundant, diverse, and easily accessible financial options in a region can further increase the likelihood of innovative entrepreneurship ideas turning into actions or vice versa. Third, one of the most critical regulatory institutions affecting innovative entrepreneurial activities is *property rights*. Since strong property rights together with an effective and independent judiciary guarantee the inventions and assets of entrepreneurs, it keeps the entrepreneurial alertness of individuals alive and encourages them to discover new ideas and inventions. Conversely, where there are insecure property rights where innovation and assets are not secured, entrepreneurship and innovation intentions and motivations are likely to be lower because people fear losing their assets through expropriation. Fourth, *the economic freedom* that gives entrepreneurs the right to freely use their time, skills and resources to seize and evaluate business opportunities promotes innovative entrepreneurial activities. On the other hand, where economic freedom is restricted, the private sector will operate in a narrower area, as the state will occupy a larger place in production, which means limiting individual enterprise intentions. Fifth, although there is no consensus on the effects of *taxes* on innovative entrepreneurial activities, most studies have found that high taxes reduce entrepreneurs' earnings, resulting in a decline in entrepreneurial activities and even a shift of entrepreneurs to informal sectors. Last but not least, *corruption*, taking place as a result of a weak judicial system, insecure property rights, cumbersome bureaucratic processes, heavy tax burdens and non-transparent regulatory institutions prevents the development of innovative and productive

entrepreneurial activities, while rather paving the way for the formation of unproductive or even destructive entrepreneurial activities. Thus, in environments with high corruption, entrepreneurial intentions and start-up activities are at relatively low levels, as uncertainties and risks in the economy are high. For all these reasons, the quality of the regulative dimension is critical in determining both the level and type of entrepreneurial activities. That is to say, innovative entrepreneurship activities will likely flourish in places characterized by efficient and simplified bureaucratic processes, the transparent judicial system, accessible financial resources, fair tax systems, effective and appropriate loans and incentives, as well as secure property rights, high economic freedom and low corruption.

The normative dimension, which specifies what action is appropriate and should be preferred, draws boundaries and imposes responsibilities on how individuals should behave, determines the rules to be followed in society, and determines the entrepreneurial and innovative behaviour and intentions of individuals. The norms, values, beliefs, and expectation that are deeply permeated and embedded in the society significantly determine how societies perceive, accept and value entrepreneurship and innovation activities. Since the normative institutions are strongly context-dependent, each region or city will have a different approach and view of entrepreneurship and innovation. Indeed, in societies where normative institutions consider entrepreneurship a desirable and appreciated career choice, the formation and development of innovative entrepreneurial activities are highly likely, or vice versa. Further, since entrepreneurship will be accepted as a socially legitimate form of behaviour in environments with favourable normative institutions, entrepreneurship activities will be encouraged, and thus individuals will be able to channel their entrepreneurial skills, abilities and investments into innovative activities. Apart from these, many studies using Hofstede's cultural dimensions have revealed that societies with high individualism, long-term orientation and masculine values, but low uncertainty avoidance and power distance may have higher innovative entrepreneurship orientations and activities.

The culture-cognitive dimension, which refers to socially shared knowledge, concepts and frames, determines the experiences, skills, knowledge and self-confidence that enable individuals to explore and exploit new business opportunities in the market, which also play critical roles in shaping the perceptions of entrepreneurship and innovation in society. For this reason, it is expected that the perceptions and intentions of innovative entrepreneurship will be at relatively lower levels in cultures that do not have sufficient knowledge, skills and experience about how to become an entrepreneur and innovate. Moreover, individual perceptions, influenced by internal and external factors, can deeply affect entrepreneurship activities in a region because societies that perceive entrepreneurship as a valuable and profitable option may attach more importance to innovative entrepreneurship activities than others. Similarly, there is a general belief in the literature that entrepreneurial role models, examples of successful entrepreneurship, create a positive entrepreneurial perception in individuals, leading innovative entrepreneurship to be seen as a legitimate, valuable and desirable career choice. In parallel with this, depending on the perception of entrepreneurship, the risk and uncertainty avoidance levels of societies may differ significantly; for example, in cultures where entrepreneurial knowledge and experience are high and positive entrepreneurship perception prevails, individuals may have less tendency to avoid risks and uncertainty. Therefore, there may be a greater disposition towards innovative entrepreneurship activities in such cultures, as there may be a higher level of tolerance to change and new ideas.

On the other hand, social capital, which consists of trust, networks (collaborations and partnerships) and norms, plays an essential role in the formation of innovative entrepreneurship perceptions at both individual and social levels by facilitating access to various resources. In fact, like culture, social capital lies somewhere between the normative and the culture-cognitive dimension, but it has been evaluated under culture-cognitive institutions, especially because of its components such as trust and networks. According to the literature review, characterized by high trust and strong networks, social capital, which enables to eliminate uncertainties in the

market, reduce the monitoring costs of transactions, and facilitates access to role models, diverse markets, rich human capital, knowledge and financial resources, contributes significantly to the development of entrepreneurial knowledge, skills and ultimately perception in society.

As a result, it is possible to draw some conclusions about the theoretical framework. First, although there has been a growing emphasis on the influence of institutions on entrepreneurial activities in the literature, especially in recent years, the number of researches on how institutions affect entrepreneurship types, particularly innovative entrepreneurship activities, is quite limited. Second, the relation of all three dimensions of institutions with entrepreneurial activities has not been addressed equally in the literature. While there is extensive literature on the impact of the regulative dimension on entrepreneurship, the literature on the other two dimensions remains narrower. In addition, the relationship between the normative and the culture-cognitive dimensions with innovative entrepreneurship seems superficial, so the impact of these two dimensions on innovative entrepreneurship needs to be investigated further. In other words, the research on how and to what extent customs, traditions, norms and values or socially shared knowledge and concepts influence innovative entrepreneurship is limited. Finally, the overwhelming majority of findings and conclusions in the literature are based on cross-country studies, as the number of studies conducted at the regional or provincial level is very low, (see Appendix Table 2.1A-D). This leads to the conclusion mentioned above because data at the national level can ignore or underestimate regional differences. The most important reason for this is that data at the regional or provincial level is limited and obtaining data at this level is quite expensive and troublesome.

CHAPTER 3

A HISTORICAL ASSESSMENT OF THE LINK BETWEEN THE INSTITUTIONALISATION PROCESS IN TURKEY AND ENTREPRENEURSHIP

This chapter consists of seven sections. The first-six section aims to investigate the association between entrepreneurship and institutions within the Turkish context from a historical perspective. In other words, to understand the relationship between these two phenomena today, it is essential to analyse historically because both entrepreneurship and institutions do not immediately exist, as indicated by Williamson (2000). Considering the critical breaking points that Turkey has experienced since its establishment, it is deemed appropriate to consider the relationship between entrepreneurship and institutions in six different periods. The roles of entrepreneurship and the state in the economy differ significantly in each period. For this reason, it is of great importance to consider each period separately and to examine what kind of institutionalisation efforts are made for the development of innovative entrepreneurship in these periods. The last section draws a conclusion by summarising the periods.

3.1 The National Industry and Entrepreneurship Restoration Period: 1923-1929

General Economic Situation

After the collapse of the Ottoman Empire, the newly established Turkish Republic emphasised the development of national industrialisation and industry-based entrepreneurial activity from 1923 to the Great Depression happening in 1929. However, since its establishment, the young Republic, giving the National Struggle and the War of Independence, found itself in a major socio-economic collapse, such as severe capital shortages and the scarcity of entrepreneurs, industrial activities,

foreign capital-intensive domestic and foreign trade, and infrastructure. Besides, the war-weary young Republic had to struggle with many problems inherited from the Ottoman Empire, including a large amount of external debt, capitulations, high import dependency, unemployment, primitive and inefficient industry and agriculture sector, weak domestic entrepreneurs and low income.

To cope with these problems and determine national economic policy, the state announced the İzmir Economy Congress in 1923. The economic development route of the new Republic was shaped according to the decisions[5] taken in this Congress. According to the decision taken in the Congress, the role of the state was defined as a mediator, which means that the government did not directly enter into economic investments and intervene in the investment decisions of the entrepreneurs but encouraged the private sector through new institutional and legal arrangements. The government pioneered establishing a number of government agencies that provided incentives and supports for the private sector during this period. Under the influence of the decisions taken at İzmir Economy Congress, Turkey's economy began to experience a shift from a conventional agriculture-based economy to an industrialised economy. The fiscal policies implemented in this direction were carried out in line with the liberal economic policies and aimed to strengthen entrepreneurship and the market economy during 1923-1929 (Kaya and Durgun, 2009).

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[5] Establishment of national industry; Ensuring the development of the private sector; Increasing the credit facilities and providing various amenities in the field of industry; Providing the training of technical staff that the industry needs; Supporting the establishment of industrial chambers, artisan associations and guilds; Establishment of industrial banks; Providing free land for the industrial enterprises; Ensuring cheap transportation for domestic goods by developing railway, sea and road transport; Ensuring the transformation of handcrafting and small business activities to large establishments; and Abolishing the tithe (Aşar vergisi).

However, the 1923-1929 period was not a pure liberal political economy period (Atay and Karsan, 2013). Although the state did not act as an investor, it directed the economy by implementing controlled "non-neutral" incentive policies. In fact, the state intended to generate a national entrepreneurial class serving under the control of the state and for its purpose.

Institutionalisation Efforts

After the İzmir Economy Congress, the state took essential steps in institutionalisation for the development of national entrepreneurship and the private sector, especially the industrial sector. It made necessary institutional and legal regulations in banking, tax, incentive and many other areas.

First of all, many regulations were made in banking and finance to stimulate the national economy and private sector. In this regard, the state launched the national banking movement to establish new banks providing financial support to firms operating in industry, trade and agriculture sectors. For example, İşbank, the main commercial bank, was established in 1924 to offer both commercial and industrial loans and to make direct investments (Koçtürk and Gölalan, 2010). Subsequently, the Industry and Mining Bank was established in 1925 with Law No. 633 to meet the industrialists' loan needs. Also, to support and provide necessary credits for the construction ventures and to protect the rights of orphans (Yücel, 2015), the Bank of Real Estate and Etyam (orphans) founded in 1926, but with an amendment made in 1926, the Bank was included in the Republic of Turkey and Ziraat Bank Corporation.

Secondly, the state made essential regulations in the tax area to alleviate heavy tax burdens on the public and support the private sector. The Aşar Tax, which had been the most important source of income of the Ottoman Empire for centuries and taken from agricultural earnings, was abolished with Law No. 552 after the decisions taken by the Izmir Economic Congress. After removing the tax, the share of tax on income in the total tax revenues decreased considerably. Therefore, the gap coming from with removal of the Aşar Tax was filled with tax on expenditures, the General Consumption Tax, in 1926, recognised as the first form of value-added tax in Turkey.

According to Kaya and Durgun (2009), the tax burden was shifted from the village to the city's economy with this arrangement. Another significant change made during this period was abolishing the dividend tax and introducing a profit tax in industry and commerce. The profit tax, adopted in 1926, was considered one of the essential taxes introduced. Profit tax is wider than the dividend tax, and it is very close to Turkey's current tax system (Kaya and Durgun, 2009).

Thirdly, with the Industry Incentive Law, which was the expanded version of the law enacted by the Ottoman Empire in 1913, the state provided significant supports to entrepreneurs and other private sector actors in the period 1923-29 (Güvemli, 1981; Yavan, 2010; Yücel, 2015). Through this law, the state provided advantages and supports to entrepreneurs in many areas such as free land allocation, credit support, infrastructure investment, tax exemption, fee reduction, machinery and equipment purchase support, and prioritising the purchase of domestic products.

However, although this law defined important incentive measures for the development of the private sector, industrialisation and entrepreneurial activities laid behind the desired level. The economic, social, demographic and even cultural environment of Turkey during this period played a crucial role in the emergence of such a result. During this period, Turkey had low capital accumulation, a small number of private entrepreneurs, a low-educated population, a high-birth rate and rural population, and poor-quality infrastructure. Besides these, the economic depression that hit the world and Turkey in 1929 prevented creating a national industry and a strong private sector with this incentive law.

3.2 The Birth of State Entrepreneurialism: 1930-1946

General Economic Situation

The Great Depression, which led to fundamental economic theory and macroeconomic policy changes, was a vital breaking point for Turkey and the world. The crisis caused many economic problems for Turkey, such as new investments and

the existing production capacities fall sharply, foreign trade balance deteriorated, the volume of import suddenly dropped, and a significant decline were observed in the current value of budgetary revenues (Parasız, 1998). Besides, the Great Depression became more destructive especially for the economies based on agriculture because of the unusual increase in stocks of agriculture and raw materials in the world (Özyurt, 1981). Thus, Turkey, which was a country whose exports were almost entirely based agricultural products, experienced significant reductions in its export revenues. All these negatively affected the Turkish economy and led to a number of problems (Koçtürk and Gölalan, 2010): i. foreign debt payments were postponed, and imports had to be cut down; ii. financial problems emerged and Turkey had difficulty finding foreign debt; and iii. the foreign trade deficit increased.

With this crisis, the liberal economic period ended and as in many countries, Turkey also experienced a transition from an outward-looking economic development approach to an inward-looking economic development approach. For this reason, the state adopted the principle of "etatism" and thus, a transition was observed from liberal economic understanding to a mixed economic understanding, which means that both state and private sector play an active role in the market. In this period, to get rid of the adverse effect of the economic crisis and get economic development, the economic intervention of the state was strongly emphasised. The state was widely accepted as an actor investing in the field of industry and infrastructure, producing goods and services with public enterprises, and leading the market with regulations and plans. In this line, the government prepared the First Five-Year Industrial Plan in 1934, and toward the end of the decade, the state economic enterprises became significant producers of many products, including iron and steel, mining, cement, glassworks, textiles, and sugar (Pamuk, 2010). Thereby, the "Etatism", implemented between 1932-1939 years, were recognised as Turkey's official economic policy.

The etatism was not interpreted as only economic policy, but also social and cultural policies. In short, the state invested in many areas by using the etatism principle to guide the private sector and make capital accumulation for the country's economic

development. Throughout 1929-1939, the state intervention continued, and the state became a key market actor.

However, the Second World War starting in 1939, had significant impacts on the economy of Turkey. Due to the reduction in imported raw materials and intermediate and investment goods, the economic recession began with the increase in inflation (Koçtürk and Gölalan, 2010). Besides, with the recruitment of many people from the workforce to the military, a significant increase occurred in defence spending. In response, the food prices increased sharply, and many products were sold on the black market. To solve the economic problems emerged during the war, the government took several precautions. One of the most important of them was the enactment of Wealth Tax (Varlık Vergisi), which brought heavy burdens to the non-Muslim community in 1942. The primary purpose was to take high tax from non-Muslims who achieved significant income during the war. As a result, many non-Muslim people sold their real estates and left the country. Thus, during the period 1939-46, the high inflation rate, scarcity of raw materials and other investment sources, and food shortages resulted in an economic recession lowering the standard of living in Turkey. For instance, the GDP declined by 35 per cent until the end of the war (Pamuk, 2010).

Institutionalisation Efforts

After the failure of the efforts to strengthen the private sector and create an entrepreneur class in Anatolia during the period 1923-29, the state decided to play a more influential role in the economy immediately after the 1929 economic crisis. Since then, with the adoption of the etatism principle, the state became a significant producer and service provider in many fields, especially in the industrial sector. In 1933, with the help of foreign experts, the government prepared the First Five-Year Industrial Plan, which was the most critical institutionalisation effort taking place during this period. The plan had three basic principles: first, to establish industrial facilities using existing raw materials in the country; second, to establish economic state enterprises in regions where the private sector was reluctant to invest; and third,

to prioritise business capacities that met the level of domestic consumption. Later, the state established Sümerbank as the state institution responsible for the plan in 1933 with Law No. 2262. Sümerbank was also responsible for conducting banking and trading activities and establishing public enterprises that mainly produce products imported from abroad. Afterwards, Etibank was established with Law No. 2805 dated 1935 to provide the necessary financing for the production and trade of enterprises in the mining and energy sectors. Besides, in line with the plan, several important state institutions operating in different sectors were established, including the Mineral Research and Exploration Institute, Electrical Power Resources Survey and Development Administration, Turkish Real Estate and Credit Bank, Provincial Bank, Halkbank, Turkish Petroleum Corporation, and Soil Products Office.

As a result, with the First Five-Year Industrial Plan, 16 large state establishments and many small and medium-sized enterprises (SMEs) were established, employment increased by more than 100 per cent, and the value of production increased by 7.5 per cent in the industrial sector. (Atay and Karsan, 2013). Also, the number of state-owned enterprises increased from 32 in 1932 to 111 in 1939 (Yenal, 2001).

Furthermore, with the adoption of etatism policies, all institutionalisation efforts were made to facilitate and strengthen the state's role in the economy. With the Law No. 3460 dated 1938, all establishments operating by the state were taken under the roof of the state as "State Economic Enterprises (SEE)".

After the first plan, the government started to prepare the Second Five-Year Industrial Plan in 1936. Compared to the first plan selecting the aboveground resources as the main source of production, the second plan mainly focused on the underground resources labelled as "three black", including coal, oil and iron-steel. The second plan was a more extensive program than the first plan and envisaged the establishment of 100 state enterprises (BBYKP, 1963). However, due to the outbreak of the Second World War the plan was abandoned and instead the "Economic

Defence Plan" was prepared and implemented. As mentioned above, the state entered a period of economic stagnation with the WWII.

3.3   The Period of Emphasising the Return to Entrepreneurship: 1946-1960

General Economic Situation

After the end of WWII, Turkey experienced for the first time a transition from a single-party regime to a multi-party regime in 1946. At the same time, Turkey entered a very challenging period in economic, social and political terms in 1946-50, defined as a period of uncertainty and crisis. Due to the precautions taken in wartime, society became impoverished and social unrest increased. Another important feature of this period was the ineffective and extravagant use of state economic enterprises that were seen as a source of all economic problems (Atay and Karsan, 2013). Thus, Turkey started to question the protectionist and statist policies and sought a way to integrate with the international market. Using these advantages of this situation, the Democratic Party (DP) defended liberal economic policies and became power with the elections held in 1950.

Along with the ruling Democratic Party, significant changes were experienced in the economic policies implemented in the previous period. For instance, instead of etatism and a closed economy, the government chose liberal economic policies and adopted free foreign trade. In line with the proposal of OECD on the 60 per cent liberalisation in imports, import restrictions were loosened, especially the list of the goods to be imported with free foreign exchange was expanded, and the quota application for these goods was abolished (Sönmez, 2004). These moves strengthened the integration of Turkey with the world economy. As a result, while imports increased by 100 per cent between 1950 and 1952, exports rose 37 per cent (Sönmez, 2004), causing deficits in the balance of external payments.

Another important policy imposed by the DP government during this period was the privatisation of State Economic Enterprises (SEEs). However, due to the insufficient

development of the capital market and the fact that SEEs did not have the status of joint-stock companies, SEEs could not be transferred to the private sector.

The DP also implemented a development plan prepared by the previous ruling party, the Republican People's Party, in 1947, focusing especially on the agriculture sector. Through this development plan, the Democratic Party benefited from Marshall aid, allowing essential mechanisation in agriculture to operate larger agricultural land. According to official statistics, agricultural output doubled between 1947 and 1953 (Pamuk, 2010).

However, the disappearance of favourable weather condition, declining agricultural productivity, and the end of the Korean War, which narrowed international demand and lowered the prices of export commodities, led to the end of these golden years, as indicated by Pamuk (2010). At the same time, the foreign trade deficit, which was 22.3 million dollars in 1950, reached 193 million dollars in 1952 with the effect of liberalisation. Hence, after 1954, the liberalisation policies focused on agriculture and foreign trade were replaced by the protectionist and import substitutions policies that prioritised the industry sector. In other words, to decline imports, Turkey began to move into the process of import-substitution industrialisation, making production for consumption goods and domestic market.

As a result, the European Economic Community (EEC) proposed a stability program in 1958 for Turkey to overcome the economic downturn and reduce the foreign trade deficit. With this program, the Turkish currency was devaluated, the foreign trade regime was rearranged, the money supply was controlled, and the prices of SEEs' products were increased (Kanca, 2012). However, all these efforts were not enough to close the foreign trade deficit and reduce high inflation, prices and unemployment. Therefore, from 1959, Turkey began to experience a social, political and economic depression, and eventually, the DP rule ended with the 1960 military coup.

Institutionalisation Efforts

After the Second World War, a new era started for the world. For example, in 1945, the United Nations (UN) was established by 51 countries, including Turkey, to maintain world peace. Besides, with the Bretton Woods Agreement, signed by 44 countries in 1944, two crucial international organisations were found: the International Monetary Fund (IMF) and the World Bank (WB) that played a key role in the economic development of the countries. Meanwhile, Turkey joined the IMF and the WB in 1947. The General Agreement on Tariffs and Trade (GATT) was also established in 1947 to regulate international trades, rights and responsibilities.

All these international organisations were set up to provide financial assistance to the countries suffering the balance of payments problems and prevent the contraction of world trade and the decline of global welfare. Like many other countries, Turkey became a member of these organisations and committed to abide by the rules of these organisations. For this reason, it decided to prepare a development plan to take advantage of both international aids and follow international economic developments. In that sense, the Turkey Economic Development Plan or Vaner Plan[6] was drafted in 1947, which was more comprehensive than the 1930s Five-Year Industry Plans and the 1946 İvedili Industry Plan.

Along with this plan, Turkey left the statist economic development model, which had been on the agenda since 1929, and made a special effort to progress the entrepreneurship and private sector. In this respect, the government increased the credit facilities of the private sector through foreign aids, made large-scale public investments in areas where the private sector wanted to invest, rearranged the foreign

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[6] Unlike previous plans prepared with a statist and protectionist approach, this plan was based on liberal policies and had some principles: i. Ensuring the development of the agricultural sector; ii. Encouraging the private sector; iii. Investing primarily to the agriculture, energy, road transport and communication sectors; and iv. Promoting and increasing foreign direct investment.

trade policy, accelerated infrastructure investments, and supported the agriculture sector by price increasing policies (Güvemli, 1981).

Besides, in the period 1946-60, in line with the international organisations and the principle of the plan, the government made several significant legal arrangements to attract and encourage domestic and foreign direct investments (Yavan, 2010). Of this framework, two short laws were introduced to promote foreign investment in 1950 and 1951, but both remained ineffective and were abolished. Therefore, the government enacted a more comprehensive law, the Law for Encouragement of Foreign Capital No. 6224, dated 1954. According to Yavan (2010), this law, which remained in force until 2003, was one of the world's most liberal foreign capital laws. In addition, the Industrial Development Bank of Turkey (Türkiye Sınai Kalkınma Bankası (TSKB)), Turkey's first privately-owned development and investment bank, was established in this period, especially to meet the financial needs of the private sector in the industrial sector.

3.4   The Period When Public and Private Entrepreneurship Go Hand in Hand: 1960-1980

General Economic Situation

After the 1960 coup, Turkey entered a planning period in line with the recommendations of international organisations such as the GATT, WB, IMF and EEC, to benefit from the supports and the market opportunities provided by these organisations. Since 1963, Turkey has prepared development plans for every five-year that contain economic, social, cultural and demographic policies, strategies, and practices that describe the country's future. However, the period 1960-80 witnessed important social, political and economic events. Thus, it was defined as a period of political uncertainty, economic stagnation, social turmoil, and military interventions (Yücel, 2015).

One of the most significant developments taking place during this period was the enactment of a new constitution after the 1960 military intervention. The new constitution brought considerable innovation in the economic sense. From 1963, the government began to implement five-year development plans that adopted a mixed economic policy bearing both statist and liberal economic policies. As indicated in the plans, the public sector and private sector were defined as complementary elements. As a responsible state organisation, the State Planning Organization (SPO) was established in this period to prepare long-term development plans and annual programs. Unlike the plans prepared before 1960, focusing mainly on the development of the industrial sector, the five-year development plans were macro-scale and comprehensive plans, including macro-scale targets, policies, and strategies regarding the industry and all other economic, social and cultural sectors.

During this period, import substitution was adopted as the main economic development strategy to protect the domestic market against import dependency and ensure the country's industrialisation. This strategy, which was accepted only by SEEs before 1960, was also adopted by the private sector along with the First Five-Year Development Plan. The private sector decisions, therefore, were mainly determined by the SPO because it was an institution that gave approval for the private sector investment projects to be able to receive tax exemptions, import privileges, and subsidised credit and access to foreign capital (Pamuk, 2010).

According to Yücel (2015), economic growth and capital accumulation based on import substitution were best achieved in the first development plans period (1963-67), while due to limited foreign exchange, the economic growth began to slow in the second development plans period (1967-70). In other words, while the plans implemented in the 60s accelerated the industrialisation of the country, the foreign capital shortage and economic crisis in the 70s slowed down the industrialisation attempts. For instance, the industry's share in GDP increased from 17.1 per cent to 20.7 per cent during the first five-year plan, while it rose from 21.5 per cent to 22 per cent during the second five-year plan and increased from 23.4 per cent to 24.8 per cent during the third five-year plan (Koç et al., 2018). On the other hand, the

share of the agriculture sector in GDP decreased from 37.5 per cent in 1960 to 21 per cent in 1977 (Öniş and Riedel, 1993).

However, by the end of the 60s, increasing economic problems, political instability, intense social polarisation and social events formed a ground for a new military intervention in 1971. The increased budget deficit, scarcity of oil and rising prices, shortages of foreign capital, high inflation and low industrial production caused an economic downturn after 1973. At the same time, due to these reasons and reduction in imports, people in Turkey experienced problems in supplying the essential products to sustain their daily lives. These economic problems were accompanied by increasing political and social polarisation, social upheaval and social conflict. As a result, a military coup took place on 12 September 1980.

Institutionalisation Efforts

After the transition to the planned period, significant institutionalisation attempts were made in Turkey to develop the private sector and encourage entrepreneurial activity. In line with this purpose, the most important organisations playing a key role in the development of entrepreneurship were established during this period.

In this sense, the Scientific and Technological Research Council of Turkey (TUBITAK) was founded in 1963 to support science, technology, and innovation research. However, TUBITAK, which plays an active role in every stage of entrepreneurship today, focused only on academic scientific studies during this period. In particular, the lack of policy towards research and development (R&D) studies in the country during this period restricted the functioning of this organisation, and therefore, delayed the establishment of cooperation between industry and universities (DPT, 1979).

The KOSGEB (Small and Medium Enterprises Development Organization), which has the most effective and broad responsibility in the development of entrepreneurship today, was established with the name of KÜSGEM (Small Industry Development Center) in Gaziantep in 1973, within the frame of the International

Treaty between Turkey and UN Industrial Development Organization. KÜSGEM was established particularly to gather small industrial organisation under one roof and to act in coordination. Although the establishment of this institution was initially seen as a small and regionally focused step, it played a vital role in the country's industrialisation and the development of entrepreneurship. With a similar approach, great importance was attached to the organisation of small-scale industrial and craft enterprises, especially after the 1970s. In this context, Law No. 507 on Tradesmen and Craftsmen came into force to gather all different production groups together in the Small Industrial Sites (SIS). T

On the other hand, the Ankara Agreement, signed between the European Economic Community (EEC) and Turkey in 1964, was one of the most important institutionalisation steps taken in this period, as it allowed Turkish entrepreneurs to internationalise and allowed Turkey to join the Customs Union, offering significant market opportunities for entrepreneurs. With this agreement, Turkey started to remove entirely or at a specific rate the restrictions and additional taxes imposed on import products. These were essential attempts that begun to remove the barriers limiting the trade between Turkey and the EEC.

Following these developments, important incentive measures were prepared to encourage and develop the private sector and entrepreneurship. For instance, for the first time in Turkey, the "Investment Discount" application was initiated for promoting investments with an amendment made in the Income Tax Law No. 193 and enactment of Law No. 202, dated 1963. This was followed by legislation that increased the foreign trade opportunity of entrepreneurs. Law No. 261 dated 1963 giving the possibility of tax return in exports, and Law No. 474 dated 1964 providing the possibility of instalment of taxes from imports were entered into force.

In 1967, with Law No. 933 on "Implementation of Development Plans" new incentive measures were introduced. The most important feature of this law was that it brought together all incentive measures implemented until 1967. However, to create a wider and more effective incentive system and simplify the relevant

formalities and shorten the duration of the response, the need for a new incentive system was widely recognised during the preparation process of the second development plan. With Decree No. 6/12585 dated 1969, "Incentive Certificate" application for the incentive transactions was initiated in this period. With this certificate, it would be easy for a firm to benefit from various incentive applications.

As a result, after a long time from the incentive law introduced in 1927, such comprehensive incentive measures were implemented for the first time in Turkey to develop the private sector and entrepreneurship. Investment instruments such as accelerated depreciation, tax reduction in exports, instalment of import tax, and investment allowance were used for the first time during this period. Another essential feature of this period was introducing the Development Priority Regions (KÖY) (Yavan, 2010). Undoubtedly, all these efforts contributed to the development of entrepreneurship and the private sector of Turkey, but the envisaged goals regarding industrialisation, private sector, institutionalisation and economic development were not fully achieved. The economic and political instability, the lack of information of entrepreneurs concerning the incentive measures and economic policies, the lack of competence of the organisations authorised to manage the economy, the complexity of authority and poor coordination among these organisations and the number of formalities in incentive measures were among the main reasons for these results.

3.5 The Period of Transition from Large-scale to Small-scale Entrepreneurship: 1980-2000

General Economic Situation

The year 1980 is an important turning point for the economic policies of Turkey. After the recession of capitalism starting from the early 1970s that hit hard the world economy, Turkey entered into the neoliberal era with 24 January Decisions in 1980. Since then, the neoliberal economic model has been adopted by altering the import-

substituting industrialisation model based on etatism development strategy. In other words, Turkey abandoned inward-looking and protectionist industrialisation policy and adopted outward-looking and export-oriented industrialisation policy. With the 24 January Decisions[7], a significant economic restructuring process started for Turkey, including the liberalisation of the foreign trade, removal of exchange rate controls, adoption of policies and incentives attracting foreign direct investment (FDI), privatisation of the SEEs, liberalisation of market interest rates, the fight against inflation, structural adjustment, and economic stabilisation (Öniş, 1998).

During this period, Turkey began to establish closer relations with the EU and the US and thus performing large-scale infrastructure projects through the loans taken from these countries. In addition, the government gradually softened and removed the import restrictions and the restrictive provisions of the law of Protection of the Value of Turkish Currency. The government made structural adjustments to increase exports and the efficiency of private sector enterprises in the economy. Moreover, the government also made significant privatisations.

Parallel to these changes, a significant increase was experienced in export revenues that reduced Turkey's balance of payment problems. However, inflation remained a chronic problem, and the annual inflation rate did not fall below 25 per cent.

As of 1989, the government had almost completed the necessary legal and institutional arrangements for the full liberalisation of foreign trade. On the other hand, to facilitate the financing of the public depts., the government tried to increase the flow of capital to the country, and thus the liberalisation of capital account was

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[7] The main principles of the 24 January Decisions having significant effects on Tukey's economy can be summarized as follows (Atay and Karsan, 2013; Yücel, 2015): i. The adoption of all measures to reduce the state's share in the economy and within this framework, the restriction of subsidies to agricultural products; ii. Removing cambium policy to provide the free exchange rate; iii. The liberalization of imports as a consequence of the gradual removal of import quotas; iv. Supporting and increasing export with various incentives and subsides such as tax rebate and cheap credit; v. Removal of the price controls and subventions on basic products of the SEEs and the privatization of these establishments.

enacted in 1989 and implemented in 1990 (Atiyas and Bakış, 2013). In this respect, while the year 1980 was the starting point of Turkey's liberalisation experience, the year 1989 represented the transition to full liberalisation of Turkey.

The increase in domestic demand and export and the decrease in oil prices enabled the economy to recover in the first half of the 80s, whereas increasing public deficit and inflation, rising domestic interest rates, real depreciation of Turkish Lira, declining exports and rising imports caused to economic stagnation in the late 1980s. In parallel, Turkey faced significant economic and political problems in the early 1990s. Especially the outbreak of the Gulf War in 1990 and the political instability or coalitions experienced between 1991-2000 had adverse effects on Turkey's economy, such as the foreign trade deficit expanded, interest rate and inflation increased, the economic productivity fell down, which in turn, slowed down the economic growth rate. All these economic problems pushed Turkey into a serious financial crisis in 1994, which brought critical socio-economic issues such as income decline and regional inequalities (Eraydın, 2004).

In response, the Economic Measures Implementation Plan was put into effect in 1994 to initiate structural reforms to stabilise the economy, narrow public deficit, create a growth regime based on external demand, and maintain economic stability (DPT, 1996).

However, the negative effect of the 1994 crisis persisted for a long time, accompanied by the increasing political instability in the 1995-2000 period. This situation pushed Turkey to experience major economic and social problems. Besides these internal negativities, the country's economy was adversely affected by the Far East financial crisis in 1998 and the subsequent Russian crisis. At the same time, two major earthquakes that took place in the Marmara Region caused considerable damage to the country's economy.

Institutionalisation Efforts

Based on the logic of the Washington Consensus envisaged the liberalisation of certain economic sectors, Turkey made important changes in regulatory institutions by paying increasing attention to the competitiveness and effectiveness of the private sector and entrepreneurship in the period of 1980 to 2000.

In the early 1980s, the Turkish Science and Technology Policy (1983-2003) document was prepared for the first time with the cooperation between the TÜBİTAK and the SPO. The main aim of this document was to discover and develop the science, technology, R&D and innovation capacities of the economic sectors in Turkey to compete with the other countries. In this line, The Science and Technology Supreme Council (BTYK) under the Prime Minister was found to establish, direct and coordinate research and development policies in the field of science and technology according to economic and social development national security objectives. With a similar purpose, in 1987, the first Industrial Council (I. Sanayi Şûrası) was convened in Ankara for discussing the problems and proposals of the industrial sector. One of the most distinctive features of this Council was the concepts of "Information Society, Knowledge Production", expressed perhaps for the first time in Turkey (Yücel, 2015). As a result of this Council meeting, Turkey Advanced Technology Promoting Project Report was prepared, emphasising the importance of advanced technology products in economic development.

During this period, the transformation of KÜSEM into the Small and Medium Industry Development Organization (KOSGEB), which played a vital role in the development and support of SMEs, with Law No. 3624 of 1990, was accepted as one of the most critical institutional arrangements. The foundation of KOSGEB has been probably the most significant step for the encouragement of entrepreneurship or SMEs in Turkey. The main objective of KOSGEB was to help only SMEs operating in the industrial sector in terms of financing, consulting and training. After this

structural arrangement, Technology Development Centre (TEKMER)[8] was established for the first time in Turkey within cooperation between KOSGEB and universities. The first TEKMERs were established in the İstanbul Technical University (ITU) and the Middle East Technical University (METU) in 1992. Also, the establishment of the Technology Development Foundation of Turkey (TTGV) in 1991 was another critical attempt to support entrepreneurial activities in this period.

In 1993, the second Science and Technology Policy (1993-2003)[9] document of Turkey was enacted by the BTYK. Besides, the Industry Strategy (1995-2005) of Turkey was prepared with the contribution of the Ministry of Industry and Trade and TÜBİTAK in 1995. The strategy document contained significant principles aiming to support entrepreneurial activities, such as supporting SMEs to increase their flexibility and technological levels. Also, the reduction of the role of the state was envisaged and defined as a regulatory actor.

However, signing of the Customs Union Agreement[10] with Turkey and the EU in 1995 was an important breaking point in terms of institutionalisation. On the one hand, this agreement offered many opportunities for entrepreneurs in Turkey, such as increasing their internationalisation level; on the other hand, it brought restrictions and limitations for the implemented incentive policies in this period. Within the scope of the Customs Union Agreement, the Competition Authority was established

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[8] The main tasks of TEKMER are: supporting and encouraging R&D culture, university-industry cooperation, the establishment of new companies, technology-based entrepreneurship and business opportunities for young entrepreneurs, and the transformation of the knowledge accumulation in the universities to the economic assets (Yücel, 2015).

[9] , The document had the following objectives: i. increasing the number of full-time equivalent research personal per ten thousand labour force from 7.5 to 15; ii. increasing the share of R&D expenditure in GDP from 0.33 percent to 1 percent; iii. Rising the Turkey's place in the world ranking, in terms of its contribution to universal science, from 40th place to 30th place; and iv. rising the share of the private sector in total R&D expenditures from 18 to 30 percent.

[10] The Custom Union Agreement defined a set of obligations that Turkey had to fulfil: i. Abolishing of customs in the trade of industrial goods with the EU; ii. Implementing the common custom tariffs against third countries; iii. Harmonizing of the incentive system with the EU; iv. Being more active in protecting the intellectual and industrial property rights; and v. Preventing the infringements of competition law and to take precautions against unfair competition.

in 1997 to implement Law No. 4054 on the Protection of Competition, enacted in 1994. The purpose of this authority was to provide a competitive environment for the market by creating a legal basis for the protection of competition and the prevention of unfair competition, and the expansion of the informal sector. Further, several regulations were made in 1995 to harmonise existing legislation with the EU legislation; for example, the Draft Law on the Amendment of the Law on Intellectual and Artistic Works No. 5846 entered into force on 7 June 1995. Similarly, the Patent Law and the Trademark Law were amended and following these, the Turkish Patent Institute was established to implement the legislation on the protection of intellectual and industrial property rights.

In addition to all these legal regulations and institutional restructuring, a series of regulations were made in this period regarding incentives to encourage foreign capital and domestic entrepreneurship. For instance, Foreign Capital Framework Decree was put into effect in 1980 to ensure that all incentives were also valid for foreign capital investments (Yavan, 2010). However, as Atiyas and Bakış (2013) indicated that after the year 1995, as Turkey became a member of the WTO and EU Custom Union, the basic logic of the investment incentive measure has significantly changed, meaning that incentive measures based on export performance or an understanding which favour the production of domestic goods were unacceptable. The agreement also defined 'measures' that aimed to support the production of certain products or sectors as 'specific measures', which may be subject to legal sanction. Conversely, a prohibition or legislative measure was not defined for subsidies with extensive targets such as research and development, environmental protection, and regional development.

As a result, through these arrangements, Turkey made several fundamental changes in its incentive system to harmonise them with the WTO and the EU rules. In this respect, incentive measures targeting export and specific sectors or products were replaced by incentives considering the level of regional development and having horizontal objectives such as the protection of the environment and the development of R&D activities and small and medium-sized enterprises (SMEs). In particular,

after 1995, the government also made a number of arrangements to support the investments in the Development Priority Regions and the State of Emergency Regions. In this direction, in 1996, the "Emergency Support Program" was introduced for investments outside the other incentive measures. With this arrangement, it was aimed to provide low-interest investment and business loans for the investments in the 23 provinces located in eastern and south-eastern of the country, with Law No. 4325 on "Employment Creation and Encouragement of Investment in the State of Emergency Regions and Development Priority Regions" and the "Law on the Amendment of the Income Tax Law" No. 193.

Table 3.1 The summary of incentive regimes implemented before 2000s

Years	Number of Incentive Documents	Investment Volume Envisaged (Current $)
1988	2.742	26.616
1989	3.257	37.507
1990	3.141	25.422
1991	1.775	21.374
1992	1.553	34.909
1993	3.051	166.122
1994	1.394	44.508
1995	4.955	102.765
1996	5.024	42.312
1997	5.144	35.808
1998	4.291	19.309
1999	2.968	18.555
2000	3.521	14.994

Source: Atiyas and Bakış (2013)

3.6 The Period of Creating Innovative Entrepreneurship: Post-2000

General Economic Situation

Increasing global competition has pushed countries to adopt more flexible, innovative and knowledge-based economic development models since the 1980s. Almost all countries have recently made important political, legal and institutional arrangements, especially after the 2000s, to increase their competitiveness, innovation and productivity and share in the market. However, Turkey entered the period post-2000s with an unstable economic structure. Towards the end of the

millennium, Turkey was struggling with several economic problems such as high public deficit, chronic inflation, increasing external debts, and high unemployment rates. In addition, two major earthquakes experienced in 1999, political instability and the global economic crisis (in the Far East and later in Russia) have led to ring alarm bells for Turkey. Subsequently, the severe impacts of the global crises of 1999 and political problems were observed on industry that resulted in significant problems in production, exports and creating employment. As a result, with the support of the IMF, the government launched a three-year macroeconomic program by Stand-By Agreement to create a balanced economic structure in 1999. Following the implementation of this program, positive developments in the economy were observed, such as inflation and interest rates substantially slowed down, and production and domestic demand started to increase (DPT, 2003).

However, some developments did not anticipate in the stability program took place in the early 2000s, for example, the prices of energy products such as natural gas and crude oil increased excessively, Turkish Lira (TL) gained real value above the expectations, developments in the Euro / US dollar parity were against the country's economy, and the current account deficit significantly exceeded the program level (DPT, 2003). Moreover, these problems were accompanied by the unhealthy nature of the financial sector, the excessive borrowing of public banks due to populist behaviour of the governments, the delay in the privatisation of some state economic enterprises (SSEs), the timid approach of international capital to developing countries. All these caused a decline in the capital flows towards Turkey and led Turkey to experience two financial crises, in November 2000 and in February 2001, having devastating effects on the national economy, such as inflation rose by 88.6%, the interest rate increased to 7500%, and the stock market lost 15% of the value (Yücel, 2015). Furthermore, many banks and entrepreneurs went bankrupt, unemployment and social unrest increased and thus, the uncertainty in the economy increased dramatically. As a result, to overcome financial crises, the coalition government initiated a recovery program at the suggestion of the IMF in April 2001, giving priority to exports, SMEs, and financial problems of businesses.

The year 2002, therefore, can be considered as an important breaking point for Turkey's economy because the country has witnessed significant positive developments in the economy after two devastating financial crises. For instance, the GDP grew by an average 5.1 per cent between 2002-2010, the net public debt in GDP fell from 66 per cent in 2001 to an average of 30 per cent in 2008-2010, inflation dropped from 53 per cent in 2002 to 6-7 per cent in 2010, and real interest rate which were above 15 per cent before 2002 fell below 5 per cent after 2009 (Atiyas and Bakış, 2013). As a result of the structural reforms, the banking and finance sector has been restructured and reinforced and the supervision and regulation of the finance sector has been considerably advanced.

In addition, after the Helsinki Summit in 1999, when Turkey was officially recognised as a candidate for full membership, and the declaration of the EU to open accession negotiations with Turkey in 2005, the reform efforts were accelerated to reconfigure the social, economic and political-administrative system of Turkey in line with the EU standards. All these institutional improvements and positive developments in the international markets has paved the way for significant improvements in favour of the market economy in Turkey. Meanwhile, due to low-interest rates in the United States, capital flowed to developing countries, including Turkey. Through improving institutional environment and increasing number of privatisations, Turkey has attracted many foreign direct investments (Atiyas and Bakış, 2013).

However, after the onset of the global economic crisis led by the USA in September 2008, Turkey found itself in an unusual situation. The crisis spread worldwide in a short time and caused significant economic recession on a global scale. Due to the crisis, Turkey experienced a sharp decline in export revenues and capital inflows. Along with several Eastern European countries, Turkey was one of the most affected countries by the crisis. Consequently, Turkey's economic growth rate dropped significantly such as, while having a lower growth rate of 0.7 per cent in 2008, it showed a worse performance in 2009 and shrunk by 4.8 per cent. On the contrary, due to growth in domestic demand, increase in fixed capital investments, and private

sector activities, Turkey became one of the world's fastest-growing economies with an 8.8 per cent growth in GDP in 2011 (Turkish Industrial Strategy Document, 2015). Since then, Turkey's economy has had fluctuating but positive growth rates between 3-5 per cent.

Institutionalisation Efforts

Turkey has witnessed significant institutionalisation efforts to have an economic growth model as prescribed by the EU and OECD, after the 2000s. In line with the economic growth strategies and policies of the EU, Turkey has paid increasing attention to the development of the private sector, especially SMEs and entrepreneurship. As the EU and Turkey have recognised the importance of entrepreneurship and SMEs in economic growth after 2000, they have increasingly emphasised the requirement of a support mechanism that creates a conducive business environment for them. In other words, the development of SMEs has been high on the EU policy agenda as put forward in the Lisbon European Summit in 2000 (OECD, 2004). The main goal of the EU is to become the world's most innovative-oriented economy, and thus, the focal point has been on innovative and technology-based activities. In that sense, several strategy and policy documents, such as SBA, MAP, and COSME, have been prepared. The EU and candidate countries, including Turkey have undertaken institutionalisation works according to the targets described in these documents. Overall, to increase the productivity, innovativeness and competitiveness of entrepreneurship, the EU and Turkey have recently developed significant policies and measures in the following areas.

Efforts to Create a Business Environment Suitable for Entrepreneurship

Since the first OECD Conference on SMEs held in Bologna in 2000, which adopted the Bologna Charter on SME Policy, Turkey has recognised the importance of creating a suitable business environment for the private sector, especially for SMEs and new ventures. In cooperation with the OECD, the 'Regulatory Reform in Turkey' was prepared in 2002, and issues such as the Regulatory Impact Analysis, Participation and Transparency have become a part of the legislative process.

Following this, the Coordination Council for the Improvement of the Investment Environment (YOİKK) was established to ensure cooperation between public institutions and to solve the problems of stakeholders affected by these institutions. For this reason, removing obstacles to the establishment and liquidation of companies in Turkey, especially after the 2000 and 2001 economic crises, has been accepted as the first step in improving the investment climate and increasing productivity in all sectors. By the Reform Program for Improving the Investment Environment, several regulations have been made to eliminate the administrative barriers encountered during the investment and operation periods. In this context, the system of the permission was replaced by the system of notification, the minimum amount of capital required for foreign direct investment was removed, and the distinction between foreign and domestic investments in the process of establishing a business was abolished by Law No. 4875 on Foreign Direct Investment put into force in 2003.

As a result of the regulations made by the YOİKK, since 2003 the number of transactions in the business establishment process has been significantly reduced and that makes Turkey as one of the countries where the establishment of business takes the shortest time. However, although Turkey has recently achieved significant progress in the reduction of the number of transactions required to establish a company, the permits, approvals and licenses granted by the local governments still constitute serious entry barriers for entrepreneurs (DPT, 2007). In that sense, the enactment of the Law on the Organized Industrial Zones (OIZs) in 2002 was considered a significant effort to reduce barriers to market entry. With OIZs law, the OIZs administrations have been authorised to provide construction permits and infrastructure services such as water, electricity and telecommunication to all plants in OIZs. In addition, with an amendment made in OIZs law in 2005, the government expanded the authority of OIZs administrations and make them single-stop investment offices which significantly reduce the entry and investment barriers in the respective regions (DPT, 2007)

Despite this positive development, the cost of establishing a business is still very high in Turkey (DPT, 2007). Compared to the business environment indicators of Turkey with the OECD average, it is observed that the ratio of total tax payments of entrepreneurs to their gross profits is still higher than the OECD average (DPT, 2001). Although there have been various reductions in tax rates to reduce the tax burden, the cost of taxation is still high for entrepreneurs because of the complexity of the tax system and the large number of taxes to be paid (DPT, 2001). T

Besides, in line with the EU acquis, Turkey entered into force the regulation regarding the SME definition in 2005. Before this period, every public organisation in Turkey had a different SME definition, and thus, it was impossible to develop a policy or support system to cover all SMEs.

On the other hand, one of the most important regulations in the context of the improvement of the business and investment climate in this period was the publication of the regulation on the establishment of the Investment Support Offices[11], established by the Development Agency Law, in every province in the Official Gazette in 2014. The Investment and Support Offices carry out important tasks such as improving investment and business environment, attracting investors, informing investors and monitoring investments made in the provinces.

Apart from these, the government has begun to provide e-government services. With the e-government services, the workload and financial burdens resulting from the bureaucratic processes on the enterprises have started to decrease. For instance, entrepreneurs can see, monitor and pay their tax declarations and social security

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[11] The Investment Support Offices have the following duties and authorities: i. to make analysis, report and strategy studies related to the business and investment environment of the province; ii. to carry out the inventory studies related to the business and investment environment of the province; iii. to provide information to investors and directing them; iv. to cooperate with relevant institutions and organizations in order to improve the business and investment environment; v. to monitor the investments and promote the business and investment environment of the province and attract investors; vi. to monitor and coordinate the permission and license transactions of the investors and other administrative works and transactions on behalf of the agency board.

premium in the electronic environment. According to the results of the comparative research conducted by the EU on the 20 basic services which were provided in an electronic environment, the average scores for providing these services[12] in Turkey is 89 per cent, while it was 82 per cent for the EU 27+.

As a result, according to the World Bank's Easy Doing Business Reports, in the overall ranking, Turkey improved from 84th among 175 countries in 2006 to 55th among 185 countries in 2015, and finally to 33rd in 2020. However, the reports of the World Bank on Doing Business[13] indicate that the place of Turkey changed annually in Starting Business rankings while it was stood in the 62nd place in 2012, it decreased to 72nd 77th in 2020.

According to the Doing Business' Turkey Report 2018, although Turkey is not an ideal country in terms of the number of procedures required to starting a business, it is well above the rankings in terms of the time (7 days) needed to complete the process. It is also indicated that paying taxes is costlier for firms because of the increasing employer's social security contribution rate and various taxes. Another challenging point explained in the report is that: "*Turkey made resolving insolvency more difficult by suspending applications for postponement of bankruptcy procedures introduced both before and during the state of emergency*". According to the World Bank's Easy Doing Business Reports, Turkey ranks 120th in terms of resolving insolvency in 2020.

Besides, entrepreneurs often need a financial resource while starting a new business or increasing the capacity of an existing business. It is widely acknowledged that the vast majority of firms in Turkey are family-owned businesses, and most of them were established by the equity capital of entrepreneurs, including family support and

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[12] This score was 55 percent for Turkey, while 58 percent for the EU 27+ in 2007.
[13] The Doing Business Project, launched in 2002, focuses on the countries business environment and their impacts on SMEs and provides measures regarding the regulations on business environment and their enforcement across 190 economies.

individual debts. Yet, after the equity capital, the credits of banks are the most important and primary financial source that entrepreneurs benefit from.

The banking and financial sectors in Turkey have been improved, especially in accessing finance, by implementing the IMF program just after the 2000 and 2001 financial crises. Nevertheless, despite these efforts aiming to enhance the role of banks in financing entrepreneurs, the number of loans given to the private sector remained somewhat limited compared with other countries in the early 2000s (DPT, 2007). For instance, the share of SMEs loan in total loans was very low, and it was only around 6-8 per cent in Turkey, whereas this rate was 50 per cent in Japan, 43 per cent in the United States, 35 per cent in Germany, and 15 per cent in India. Similarly, the World Bank Doing Business reports indicate that the level of utilisation of credit by the private sector in Turkey is relatively weak compared to other countries, and Turkey ranks 77th among 190 countries in 2018 and 37th in 2020. Also, the World Economic Forum Global Competitiveness Index shows that while Turkey ranked 77th among 120 countries in terms of ease of access to loans in 2006, it was at 62nd rank among 144 countries in 2012, and then increased to 51st among 152 countries in 2017.

One of the main reasons for the low access and use of bank loans in Turkey is the high number of guarantees demanded by banks for loans from entrepreneurs. The banks initially demanded guarantees equal to 100 per cent of the credit for small scale firms and 91 per cent of the credit for medium-sized enterprises (Turkish Industrial Strategy Document, 2011). Later, this rate was decreased by the BDDK to 75 per cent for SMEs in 2012 following the EU acquis (SMEs Strategy and Action Plan, 2015).

Incentives and Other Support Mechanisms

After the devastating economic crisis in the early 2000s, essential support mechanisms and incentives for the development of entrepreneurship in Turkey was put in place in accordance with the international cooperation described above (see also Table 3.2, which summarises the contribution of incentive regimes for the last

20 years) In this sense, the Law No. 5084 dated 2004, which had a regional orientation rather than sectoral selectivity, was enacted to encourage investment and employment in 36 underdeveloped provinces, which had GDP per capita less than 1,500 dollars in 2001. The law offered a wide range of supports for new firms to be established in these provinces, such as corporate tax exemption between 80 and 100 per cent, social security premium support, 20 per cent energy support, as well as free land allocation (to companies employing at least 10 workers for at least 5 years). This law especially supported the investment made in the OIZs more strongly, for example, the social security premiums and corporate taxes of the companies established in the OIZs were subsidised by 100 per cent, while those outside of the OIZs were subsidised by 80 per cent (Yavan 2010; Atiyas and Bakis, 2013).

Table 3.2 Summary of the incentive regime for the last 20 years

Years	Number of Incentive Documents	Fixed Investment (Million TL)	Employment
2001	2.050	12.367	105.706
2002	2.654	11.668	135.539
2003	3.174	11.678	143.353
2004	3.457	15.867	158.204
2005	3.545	16.010	147.260
2006	2.461	13.262	97.650
2007	2.228	19.895	100.095
2008	2.438	20.727	90.836
2009	1.976	22.452	73.392
2010	3.198	50.134	117.621
2011	3.466	42.194	105.684
2012	3.622	70.006	150.307
2013	4.166	80.306	171.533
2014	3.517	83.653	160.128
2015	4.317	111.350	149.241
2016	4.982	114.201	153.942
2017	7.270	196.547	225.307
2018	5.799	182.249	250.374
2019	5.654	191.128	205.451
2020	10.505	238.416	305.342

Source. The Ministry of Industry and Technology (MIT) (2021)

The scope of the incentive law, amended by Law No. 5350 dated 2005, was further expanded, for example, the targeted number of provinces was increased to 49, the subsidy amounts were increased, and the compliance of the conditions changed.

With this change, to benefit from subsidies, newly established firms had to employ at least 30 employees, and old companies had to increase their employment by at least 20 per cent (Atiyas and Bakis, 2013).

Table 3.3 Innovation Indicators of Turkey

	Researchers in Headcounts (HC)	Researchers in Full-time Equivalents (FTE)	Gross domestic Expenditure on R&D (GERD)	Number of Registered Patents
1990	31 734	11 225	0,32%	NA
1991	33 132	11 948	0,53%	NA
1992	34 525	12 573	0,49%	NA
1993	38 587	13 605	0,44%	NA
1994	40 652	14 460	0,36%	NA
1995	44 862	15 854	0,38%	58
1996	51 170	18 085	0,45%	47
1997	54 577	18 908	0,49%	7
1998	54 061	18 925	0,36%	31
1999	58 020	20 065	0,46%	28
2000	67 512	23 083	0,47%	23
2001	67 190	22 702	0,52%	57
2002	71 288	23 995	0,51%	73
2003	74 520	32 659	0,47%	92
2004	77 110	33 876	0,50%	68
2005	83 856	39 139	0,56%	94
2006	90 118	42 663	0,55%	122
2007	101 961	49 668	0,69%	317
2008	106 423	52 811	0,69%	337
2009	114 436	57 759	0,80%	456
2010	124 796	64 341	0,79%	642
2011	137 452	72 109	0,79%	847
2012	155 133	82 122	0,83%	1025
2013	166 097	89 075	0,81%	1244
2014	181 544	89 657	0,86%	1251
2015	190 784	95 161	0,88%	1730
2016	191 769	100 158	0,94%	1794
2017	210 769	111 893	0,95%	1964
2018	230 030	126 249	1,03%	2805
2019	243 773	135 515	1,06%	2003

Notes: NA means data are not available.
Sources: TurkStat and Turkish Patent and Trademark Office

On the other hand, the Council of Ministers Decree No. 2009/15199 on State Aids for Investments largely shaped the current incentive regime and brought major innovations regarding incentives and supports. This decision aims to direct savings

to investments with high added value to increase production and employment. In this incentive system, incentive rates were differentiated according to regions, sectors, and investment size.

Through this decision, a comprehensive sectoral-regional incentive system was implemented for the first time in Turkey. Under this incentive regime, all provinces in Turkey were divided into four regions according to the Socio-Economic Development Index (SEGE) made by the SPO in 2003. The sectors to be supported in each region were determined separately, and the support instruments and amounts were also differentiated between the regions. In this sense, the amount and duration of support provided to the first and second regions, which include more developed provinces, were lower than the third and fourth regions that included less developed provinces. Besides, priority was given to supporting companies in high technology sectors in more developed regions (first and second), while emphasis was placed on sectors with lower technology but high employment in less developed regions (third and fourth), particularly manufacturing, health, education, tourism and agriculture. Apart from regional and sectoral supports, additional supports that provide greater advantages for large-scale investments have also been provided.

The Council of Ministers Decree further changed the incentive regime No. 2012/3305 concerning State Aids for Investments. The new incentive regime, which is still valid today, defines incentives for "strategic investments" in addition to the general (sectoral), regional and large-scale investments in the previous incentive system. Companies to be supported within the scope of strategic investments must invest at least 50 million TL in sectors with the highest import dependency of Turkey. Another innovation brought by the new incentive regime is that the provinces in the country are divided into six regions according to the SEGE index in 2011. In addition, the new regime further lowered the minimum investment thresholds required for large-scale investment incentives. Similarly, more comprehensive and stronger incentives for investments in OIZs have been defined so that firms create a cluster and benefit from its economic benefits.

Apart from these regulations regarding incentives and supports, a number of institutional arrangements were made to support innovations and R&D activities. The first of these was the enactment of Technology Development Zones (TDZ) Law No. 4691 in 2001. This law aims to increase the competitiveness, export, information, knowledge and technology capacity, product quality, and productivity of the country's industry by ensuring the cooperation of universities, research institutions, and production sector. This law was later amended and further expanded by Law No. 6170, enacted in 2011. Subsequently, Turkey has introduced Law No. 5746 dated 2008 on Supporting Research and Development Activities to promote university-industry cooperation, R&D activities, and innovative and high-tech companies by providing fiscal incentives. Currently, 84 Technology Development Zones or Technoparks have been announced by the Council of Ministers, and 70 have become operational. Further, as of June 2020, 58,922 personnel are employed in technoparks, while 5,846 companies are conducting R&D studies. To date, 36,535 R&D projects have been completed in Technology Development Zones (Technology Development Zones Association (TGBD), 2021). The main public institutions responsible for the implementation of supporting programs related to R&D and innovation activities are TÜBİTAK, Technology Development Foundation of Turkey (TTGV), and KOSGEB affiliated with the Ministry of Industry and Technology. Among these institutions, TÜBİTAK is by far the most important source of public supports and funds.

All these legal regulations, incentives and supports have considerably increased Turkey's R&D capacity over time (see Table 3.3). For example, while the share of R&D expenditures in GDP was only 0.47 per cent in 2000, it raised to 0.79 per cent in 2010, and to 1.06 per cent in 2019. However, Turkey has lagged far behind developed countries in terms of R&D expenditures, such as the share of R&D expenditure in GDP for 2018 is 2.34 per cent for OECD countries, 2.83 per cent for the USA, and 2.03 for the EU countries, respectively. At the same time, the number of Full-Time Equivalent researchers increased substantially from 11,225 in 1990 to 23,083 in 2000, to 64,341 in 2010, and to 135,515 in 2019.

3.7   Conclusion

This section attempts to briefly summarise Turkey's institutionalisation efforts throughout history to revitalise and develop entrepreneurship in the country. As shown in Figure 3.1, throughout history, Turkey has been subjected to significant external and internal shocks, which have significantly affected and eventually changed the economic growth approaches of many countries in the world and Turkey. For this reason, the institutionalisation processes for the development of entrepreneurship in Turkey have been examined in six different periods, which are quite different from each other.

First, although the young Turkish Republic emerged from the ashes of the Ottoman Empire and gave the War of Independence, it made necessary legal and institutional arrangements for the revival and development of the private sector, especially the industrial sector and the national bourgeoisie in 1923-1929 period. Unfortunately, the loss of a large part of the educated population in the country in wars and the great devastation of wars did not allow these policies and regulations to be implemented effectively. In addition, the fact that a large part of the country's population in this period lived in rural areas, had a low education level and was poor, prevented the development of entrepreneurship culture in the country and the achievement of the institutionalisation efforts.

Second, the period 1929-46 was a devastating period for both the world and Turkey. The Great Depression and the subsequent World War II caused many countries to suffer in many ways. Therefore, with the Great Depression, the liberal economic era came to an end. Turkey shifted from an outward-looking economic development approach to an inward-looking economic development approach as in many countries. To pursue the interventionist Keynesian economic policies, the state entered the market directly as an entrepreneur to provide economic growth and the necessary capital accumulation to the private sector. By following the import substitution policy, the state has taken significant steps to produce many products that need to be imported from abroad, domestically. The state established large-scale

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import substitution industrial facilities in various cities to complement the private sector. That is, in this period when etatism was accepted as an official policy, private sector investments were not encouraged enough, while the state became an important and effective regulatory actor of the market.

Third, complaints with regard to the protectionist and statist practices and the economic restructuring processes occurring in the world after the Second World War forced Turkey to put liberal policies on its agenda. The increasing emphasis on liberalisation discourse after 1946 found a chance to be implemented by the ruling Democrat Party. In particular, a transition from etatis economic policies to liberal economic policies was observed during the period 1950 to 1953. Contrary to the previous period, the state intended to realise the country's industrialisation with the private sector and entrepreneurs. In other words, the government envisaged that economic development would be achieved by shrinking the state in the market and raising the private sector's role in the economy. Thus, the government made significant legal and institutional arrangements in line with the liberal economic policies to remove the obstacles and support the policies to develop and strengthen entrepreneurship and the private sector. In this regard, Kanca (2012) has defined this period as the period when anti-state and liberal policies were practiced. However, from the beginning of 1953, due to major problems in the balance of payments, the liberal wind slowed down and signals of a return to protectionist and statist policies were given. Thus, a statist and protectionist economic development model was adopted instead of an economic model based on the private sector and individual entrepreneurship. Entrepreneurship activities and the private sector were not encouraged and developed at the desired level due to the increasing external debt, decline in agricultural production, drought, and social unrest.

Fourth, after the 1960 coup, Turkey entered into a planned period in line with international organisations such as GATT, WB, IMF and European Economic Community (EEC). During the period 1960-1980, Turkey highly emphasised the development of private and public sector entrepreneurship by adopting a mixed economic development model. At the same time, to reduce import dependency,

Turkey especially focused on the advancement of the industry sector and chose a model of import substitution industrialisation in this area. For instance, according to the First Five-Year Development Plan (1963-67), all economic policy instruments were applied equally to the public sector and the private sector (DPT, 1963). Accordingly, the four development plans implemented prior to 1980 envisaged and encouraged import substitution industrialisation through the public and private sectors' active involvement. In that sense, the institutional arrangements and policies made in this period aimed to develop both public and private sector entrepreneurship. In this way, compared to previous periods, significant progress was observed in the development of entrepreneurship in the country.

Fifth, following the economic crises of the 1970s, which were caused by several major reasons such as the substantial increase in oil prices, the end of the Bretton Woods Agreement and the decrease in the economic growth of developed countries, fundamental changes took place in the economic development approaches of countries, including Turkey. For these reasons, especially in the 1980s, significant economic geography developments forced governments to review their economic development tools and strategies. Therefore, the economic development theories based on state interventions, economies of scale, mass and large-scale productions, comparative advantages were replaced by approaches which focus on the market economies, privatisation policies, flexible and small-scale production facilities, foreign direct investments, and competitive advantages. Entering a new era in 1980, Turkey abandoned state intervention and protectionist policies and began to adopt the neoliberal policies, which ensured the market economy, trade liberalisation and privatisation of the SEEs. Since then, Turkey has put a growing emphasis on the encouragement and support of flexible, small and medium-sized enterprises. This can be easily understood from changes in terminology and policies used in development plans. For example, while the term craftsman and craftsman were used to describe small-scale enterprises in the plans before 1980, the term SMEs (Small and Medium Enterprises) was used in the post-1980 plans. Similarly, while the policies and incentives produced in the pre-1980 period mainly aimed to support

SEEs and large-scale enterprises, after 1980 there was an increasing emphasis on the incentives and development of flexible and small-scale firms due to their contributions to the economy.
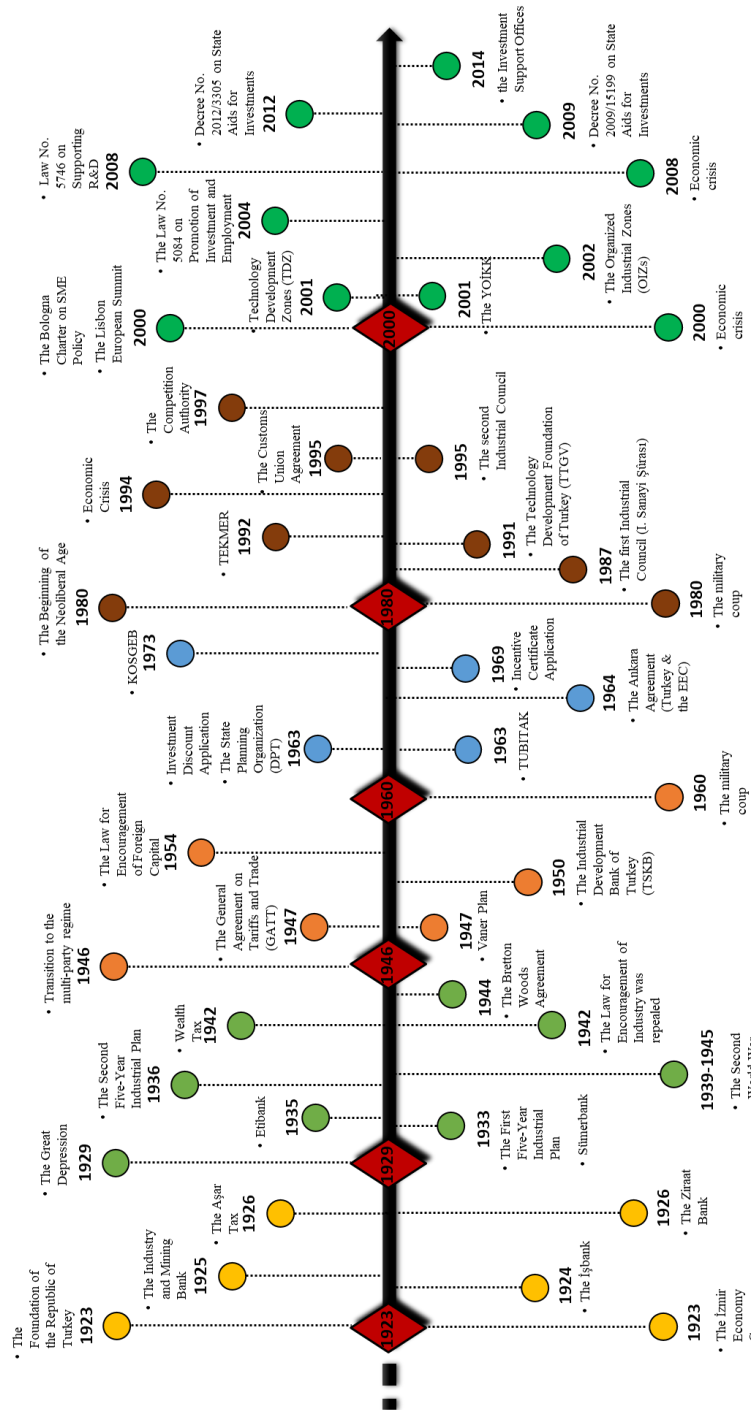
Figure 3.1. Timeline of the Institutionalization Process of Turkey

In summary, Turkey experienced two breaking points in the 1980-2000 period: entering the neoliberal era with the Washington Consensus in 1980 and joining the EU Customs Union with the agreement signed with the EU in 1992. Especially after the 1990, Turkey has begun to recognise the importance of SMEs and entrepreneurial activities in the economic development process and pay increasing attention to privatisation, flexible and small-scale production, and competitiveness. Therefore, since 1980 policies and incentive measures have been introduced to encourage and support SMEs and the private sector to increase their effectiveness in the economy.

Finally, since the 2000s, Turkey has emphasised creating and developing entrepreneurial activities, especially innovative and high-tech entrepreneurship activities, in line with the OECD and the EU policies. Thus, to create an entrepreneurial friendly business environment, support innovative and knowledge-based entrepreneurs, facilitate access to finance, spread the entrepreneurship culture and increase competitiveness, Turkey has made quite essential regulations and improvements, especially in regulatory institutions after the 2000s. Therefore, compared to previous periods, Turkey has created a very favourable business environment for entrepreneurship and the private sector, although it lags behind OECD countries in many regulatory institutional areas such as taxes, business bankruptcy and local government permits.

CHAPTER 4

METHODOLOGY

The primary purpose of this chapter is to describe the case selection process and research method and design, as well as the methods of data collection, processing, and preparation for analysis, which require to achieve the goals and objectives of the thesis, to test the research hypotheses, and to answer the research questions.

Since the current study focuses on how and to what extent the regulative, normative, and cultural-cognitive dimensions of institutions determine the different innovative (or innovation-oriented) entrepreneurship levels of the provinces (or NUTS-III regions), it is of great importance to identify cases/provinces with different levels of innovative entrepreneurship. Therefore, in the first part of this chapter, the criteria of case selection are discussed comprehensively. Second, since this study intends to explore, understand and explain the relationship between the three dimensions of institutions and the level of innovative entrepreneurship, the design of mixed research methods is included in the second part of this chapter. Since 'the Exploratory Sequential Mixed Method' is chosen as the method in this study, it is first aimed to explore and understand the relationship between the three dimensions of institutions and innovative entrepreneurship. For this reason, it is decided to conduct a qualitative study first. A quantitative method is adopted in the second stage of the research after reaching detailed information about the effects of three dimensions of institutions on innovative entrepreneurship activities. Thus, the effects of the three dimensions of institutions on regional innovative entrepreneurship could be quantified. This section also includes important information about sample selection, data collection and preparation processes, and analysis methods regarding qualitative and quantitative research stages.

4.1   The Case Study

The case study approach is a form of research that social scientists are familiar with because it has a long history in social science and has been applied in many fields in social science, such as in sociology, economy, political science, law and regional studies (Creswell, 2009). Case study are generally preferred as an inquiry strategy when "how" and "why" questions are posed by the inquirer, when the inquirer has little control over a phenomenon under study, and when the researcher focuses on a contemporary phenomenon in the context of real life (Yin, 2011). He suggests that case study can be conducted as exploratory, explanatory, and descriptive case studies and also adds that case studies may consist of a mixture of both quantitative and qualitative evidence.

Case studies can be divided into two groups: single-case and multiple-case studies. In a single case study, the researcher chooses a bounded case to show the issue or problem under investigation. In multiple case studies, the researcher focuses on one issue or problem, and then selects multiple bounded cases to reveal the problem. The researchers often select multiple cases to illustrate different aspects on the research problem (Yin,2011). However, in the case study, the theoretical saturation point is defined as the point where information obtained from case studies becomes unnecessary, and new knowledge and ideas are not produced (Seidman, 1991); thus, the saturation point could be reached after 12 to 20 in-depth interviews (Maykut and Morehouse, 1994).

After having discussed the design principles regarding the case study, the following sub-section tries to describe how to carry out a multiple-case study in selected provinces/regions (NUTS-III level) of Turkey. How do institutions explain the differences in innovative entrepreneurship levels across provinces[14]? Whether they

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[14] According to the Eurostat Nomenclature of Territorial Units for Statistics (NUTS), the provinces in Turkey are classified at NUTS-III level. Therefore, the words of provinces or regions can be used

hinder or support to the formation of innovation activities in regions? Answering these research questions requires comparing regions with different levels of innovative entrepreneurship and a deeper and broader understanding and exploration of the relationship among institutions and innovative entrepreneurship in these regions. The case study literature reveals that multiple-case studies are a suitable method for this thesis to find answers to the research questions and obtain more fruitful and valid data about the research.

In this multi-case study, to present a comprehensive and meaningful picture about regions, it is planned to collect two types of data by designing mixed research design. In the first stage, it is planned to conduct a qualitative research to understand and explore the association between institutions and the formation of innovation activities and learn the attitudes, approaches and ideas of policy-makers, NGOs and entrepreneurs about these two phenomena. In the second stage of the study, quantitative research will be conducted based on the findings obtained by analysing the qualitative data. Thus, we may have learned how and to what extent institutions determine/explain the level of innovative entrepreneurship and the differences between provinces.

4.1.1   The Rationale of Case Selection Process

As mentioned above, to examine the associations between institutions and innovative entrepreneurship, we need to select regions/provinces with different levels of innovative entrepreneurship. This is necessary to compare the effects of institutions on the formation and development of regional innovative activities. However, there is no innovation index or an advanced data set that measures the innovative entrepreneurship levels of the regions. Although innovation data based on Oslo

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interchangeably when writing about the cases. The regions referred to here is in fact the NUTS III level regions.

Manual and R&D data based on Frascati Manual have been measured for every year at the national scale, these data are not available on the regional scale. Therefore, we have to develop an approach that allows us to measure the innovative entrepreneurial levels of regions.

In this sense, we used three different variables[15] to categorise regions with varying trajectories of entrepreneurship. First, we decided to use the dataset obtained from the Turkish Patent and Trademark Office (TPTO) because these data have been used in many empirical studies to illustrate the innovation levels of countries or regions. This dataset involves the total application numbers of patent, trademark, industrial design, and utility model. As indicated in the OECD Oslo Manual (2005), patent statistics, which are a legal property right, are increasingly used in various studies as innovation indicators, although they have certain drawbacks. Second, we used the ratio of firms in the high- and medium-high tech class according to the NACE rev2 classification. These data are essential proxies to reflect the manufacturing industry structure of regions and show regions' technological development levels. Since firms in high- and mid-high technology classes in the manufacturing industry are more prone to innovation activities, the intensity of these firms in total firms can provide important clues about the innovative entrepreneurship capacity of the provinces in Turkey. Third, we used entrepreneurship rate, identified as the process of creative destruction, where new technologies replace the old (Schumpeter, 1934).

After determining the criteria for measuring the variables, a ten-year average of the variables was used to calculate 81 provinces in Turkey. The provinces below or above the country average according to three variables were divided into 8 different

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[15] The variables used to measure innovative entrepreneurship levels of the regions:

 i. ***Total Innovation Rate:*** Total numbers of patent, utility model, brand mark, and industrial design application per a hundred thousand people.

 ii. ***High-Tech Firm Ratio:*** The ratio of high- and mid-high firms in total firms.

 iii. ***Entrepreneurship Rate:*** Number of new firms per a thousand labour force

categories as shown in Table 4.1 and Figure 4.1 (provinces selected from different categories are marked with a red circle). However, we did not have the chance to choose a province from each category due to financial, time and labour constraints. Thus, to better show the effects of institutional factors on innovative entrepreneurship activities, cases/provinces were selected from categories that are most different from each other. Since the level of innovation is closely related to entrepreneurship and the presence of high technology companies, provinces were selected considering the relationship of these two variables with innovation.

Table 4.1 The Categorisation of Provinces/Regions by Innovation, High-Tech and Entrepreneurship Variables

Categories/Variables		Total Innovation Rate	High-Tech Firm Ratio	Entrepreneurship Rate
Category 1	+.+.+	High	High	High
Category 2	+.+.-	High	High	Low
Category 3	+.-.+	High	Low	High
Category 4	+.-.-	High	Low	Low
Category 5	-.+.+	Low	High	High
Category 6	-.+.-	Low	High	Low
Category 7	-.-.+	Low	Low	High
Category 8	-.-.-	Low	Low	Low

As a result, Adana, Bolu, Elazığ and Van provinces were selected from the following categories:

Category 1 (Adana): The province where the level of innovativeness, entrepreneurship and high-tech sector is the highest (the province with the highest innovative entrepreneurship).

Category 5 (Bolu): The province where the level of entrepreneurship and high-tech sectors is high, but innovativeness is low.

Category 7 (Elazığ): The province where the level of entrepreneurship is high, but the level of innovativeness and high-tech sectors is low.

Category 8 (Van): The province where the level of innovativeness, entrepreneurship and high-tech sectors is the lowest (the province with the lowest innovative entrepreneurship).
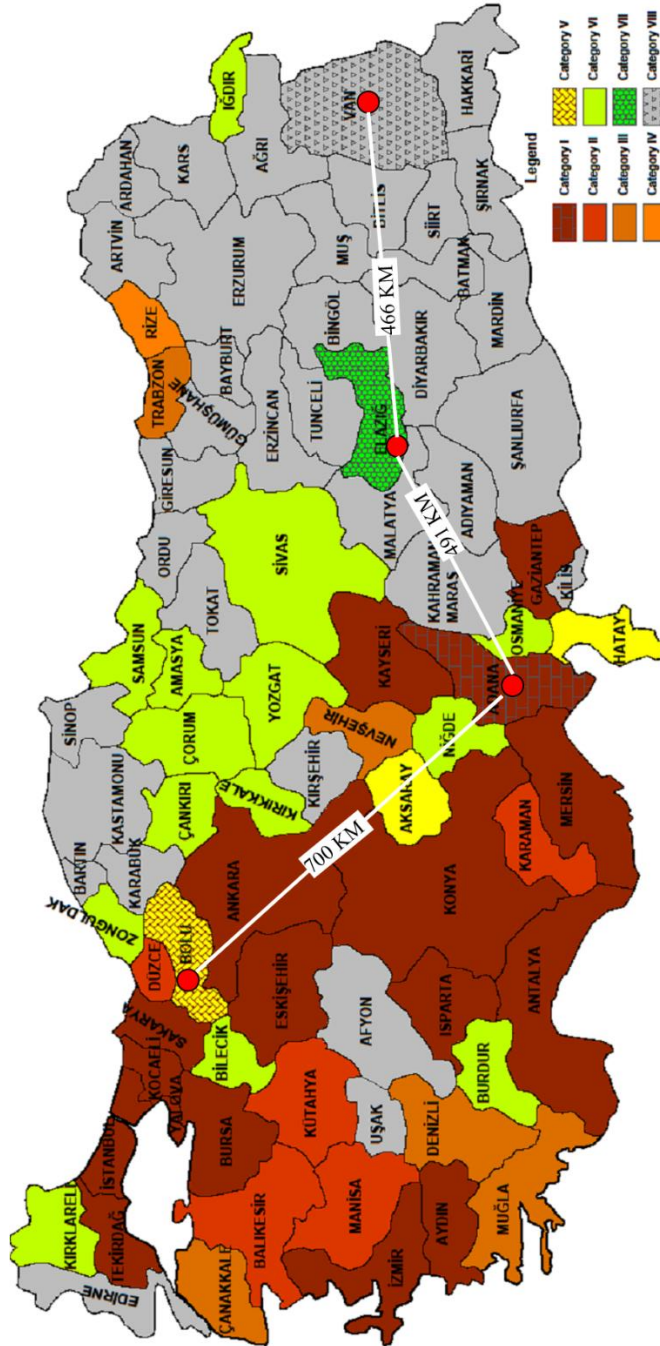
Figure 4.1. Regions with different entrepreneurship trajectories.

4.1.2 Describing the Cases

Case I: Van

Van, one of the largest provinces situated eastern part of Turkey, is located in the west of Iran. According to the Turkish Statistical Institute (TurkStat, 2017), the total population of the city was 1106891 (see Table 4.2). However, the research report of the Socio-Economic Development Ranking of Provinces and Regions (SEGE), published by the Ministry of Development, which specify the socio-economic development ranking of the provinces using various variables (such as education, demographics, health, employment, competitiveness and innovation capacity, financial capacity, accessibility, quality of life, and so forth), showed that Van ranked 67th among 75 provinces in 1996 and declined to 75th among 81 provinces in 2003 and 2011 (see Table 4.5). Parallel to this, the GDP per capita in Van was US $ 3295, which was entirely below the national average of US $ 9213 for the same year, which corresponds to 80th place (see Table 4.3).

On the other side, the Union of Chambers and Commodity Exchanges of Turkey (TOBB) data revealed that except in 2000, Van always has an entrepreneurial capacity, measured as firm birth rate, below Turkey's average, during the 2000-2017 period (see Table 4.4). While the new firm formation rate per one thousand people ranged from 0.21 to 0.47 in Van, this ratio varied between 0.49 and 0.91 for the country average. Besides, various competitiveness indexes, developed by different public or non-public organisations in Turkey after the 1990s, determine regions and cities' competitiveness levels and provide quite important clues about provinces' competitiveness. As shown in Table 4.5, Van ranked between 55 to 78 during the period 1996-2016. Considering that there are 81 provinces, Van has always been in the worst 25% tranche. According to the International Research Institute (URAK, 2016), Van had the best score in 2009 with its place in 55th while getting the worst degree in 78th in 2011. These results clearly show the adverse effects of the earthquake in Van on 23 October 2011. The city, which had improved in terms of competitiveness before the earthquake, seems to have difficulty recovering after the

earthquake because it suffered significant losses in capital, population, and investments. However, there are substantial indications that the city has started to recover itself recently. Similar institutions have also developed different sub-indexes, such as an innovation or creativity sub-index. According to the table, after 2011, the city has made significant progress in terms of innovation. The most important reason for this change is the change in the number of variables used in calculating the innovation index. Still, another reason is that the city starts to pay more attention to innovation activities after the earthquake. For example, the establishment of Teknokent in the university and the creation of incubation and technology transfer centres positively contribute to the city's development in terms of innovation. The city, which ranked 71st place before 2011, has started to take place in 30th places after 2011.

Table 4.2 Demographic Composition of the Cities, 2017

Provinces	Total Population	Urbanization Rate	Net Migration	Population Density	University Graduate Rate	Ph.D. Graduate Rate
Adana	2216475	1 (0.89)	-5,99	159.29	0.12	0.003
Bolu	303184	0.72 (0.65)	3,95	36.44	0.13	0.005
Elazığ	583671	0.78 (0.74)	-2,82	69.03	0.12	0.005
Van	1106891	1 (0.52)	-14,62	57.35	0.07	0.003
Turkey	80810525	0.93 (0.77)	3.00	105.00	0.13	0.004

Source: TurkStat, (**Not:** the figures shown in the parentheses belong to the year 2012.)

Besides, we calculated the total innovation activity rate[16] for each province (see Table 4.6). Accordingly, while Van's total rate of innovation activity ranged from 1.58 to 17.44 between 1995 and 2017, the country's average changed between 8.08 and 67.77, meaning that Van realised only 20 or 25% of the country's average of innovation activity. These results are essential proofs to see how far Van behind the

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[16] To calculate the ratio of total innovation activity, the total number of applications for patents, utility models, trademarks and industrial designs was divided by the total population and then, multiplied by a hundred thousand.

country's average in terms of innovation, such as among 81 provinces, it ranked 66th in 2000 but declined to 70th in 2017.

Lastly, R&D and Design centres are important centres where new knowledge is produced and then transformed into innovation. As of 2019, there are 1156 R&D centres and 341 Design centres in the country; however, there is neither an R&D centre nor a Design centre in Van.

Table 4.3 Gross domestic product (GDP, $) per capita by provinces, 1990-2017

Provinces	1990	1995	2000	2005	2010	2015	2017	2019
Adana	2 702	2 844	3 286	5 160	7 809	7 991	7 735	6 484
Bolu	2 595	2 916	5 687	8 628	12 269	12 383	11 019	9 537
Elazığ	2 080	2 092	2 253	4 467	7 061	7 045	6 674	5 675
Van	972	1 015	1 118	2 478	3 792	3 887	3 859	3 295
Turkey	2 655	2 727	2 941	7 304	10 560	11 019	10 602	9 213

Source: Turkish Statistical Institute (TurkStat)

Case II: Elazığ

Elazığ is located in the far west of the Eastern Anatolia Region and above the Euphrates Basin. According to Turkstat (2017, 2019) database, the city had 583671 population and 5675 US dollar GDP per capita. However, in terms of socio-economic development ranking, Elazığ ranked 33rd among the 75 provinces in 1996 and ranked 36th and 39th among 81 provinces in 2003 and 2011, respectively (see Table 4.5).

In terms of entrepreneurship level, measured as the new firm birth rate, Elazığ had below the national average in 2000 and 2017, while above the average between these two years (see Table 4.4). While the firm birth rate increased between 2000 and 2010, there was a slight decrease after 2010. In contrast, the rate of entrepreneurship in the country grew steadily. Among 81 provinces, Elazığ ranked 29th in 2000 and increased to 20th in 2010, and it declined to 54th in 2017. In this sense, previous studies have pointed out that the entrepreneurial culture is weak in the city and highlighted several important issues related to the weakness of the entrepreneurial

culture. For example, the results of field studies conducted by Fırat Development Agency (FDA) for the TRB1 Regional Plan revealed that the culture of entrepreneurship could not develop sufficiently in the city because of the cultural structure of Elazığ or the effect of public investments and supports to the city in the first periods of the Republic. It was also reported that Elazığ people who migrated to abroad or large cities had conducted successful entrepreneurship activities in various subjects, but these examples of successful entrepreneurship could not be observed at the local level.

Table 4.4 Firm Birth Rate per one thousand population, 2000-2017

Provinces	2000	2005	2010	2015	2016	2017
Adana	0.40	0.47	0.52	0.69	0.64	0.71
Bolu	0.34	0.35	0.53	0.48	0.44	0.49
Elazığ	0.25	0.42	0.51	0.48	0.45	0.36
Van	0.47	0.21	0.28	0.25	0.26	0.34
Turkey	0.27	0.39	0.45	0.47	0.44	0.52

Source: TOBB, 2018

It was also highlighted that the partnership culture in Elazığ is not sufficiently developed. Although there were a limited number of associations and co-operatives that provided significant advantages to entrepreneurs in terms of costs and the market, the small number of such establishments did not have sufficient impact on the city's entrepreneurship ecosystem. Moreover, the Chamber of Commerce and Industry of Elazığ (ETSO, 2018) emphasised several entrepreneurs' problems, such as the difficulty of obtaining loans, inability to benefit from state aids and other financial instruments (bills and stocks).

On the other hand, according to the studies measuring the competitiveness of provinces between 1996 and 2017, Elazığ achieved the best degree by ranking 25th in 2013 among 81 provinces, but it got the worst degree in 2012 by taking place in the 43rd. According to the latest study by URAK (2017), the province was in 36th place (see Table 4.5). In terms of competitiveness, Elaziğ had a higher competitiveness index value and rank than all Eastern Anatolia Region provinces,

including Van. However, according to the innovation index developed by URAK, Elazığ had worse rankings before 2012. Still, after that date, it achieved significant progress and became the 21st provinces for a long time, but declined to 24th in 2017. After Erzurum, which ranked 17th, Elazığ became the second most innovative city in the Eastern Anatolia Region (see Table 4.5).

Similarly, concerning the total innovation activity rate, Elazığ has always been below the national average between 1995 and 2017, except for 2010. In terms of the country's total innovation activity rate, Elazığ ranked 48th in 2000, while it increased 14 places and ranked 34th in 2017 (see Table 4.6). According to the latest data, Elazığ has become the most innovative province of the Eastern Anatolia Region in total innovation activities. Moreover, in terms of R&D and Design centres, which are crucial for innovation activities, Elazığ has one R&D centre but no Design centre.

In short, Elazığ is just below the country average in terms of innovation level. Considering that Turkey is not a highly innovative country, it can be said that the innovation capacity of Elazığ is insufficient. Today, cities are required to produce more sophisticated and differentiated products and services to increase their competitiveness levels. The essential condition for achieving this is paying more attention to innovation and technological development and, therefore, R&D and scientific activities. In this respect, although Elazığ has significant potentials, such as having a well-established university, technology development zone and R&D centre, the city cannot use its potential sufficiently as shown above.

Case III: Bolu

Locating between two major metropolitan cities -İstanbul and Ankara-, Bolu has a quite crucial geopolitical location. However, it is one of the smallest cities in the country with about 300 thousand population. Unlike other cases, Bolu had a GDP per capita of $ 9537, higher than the national average. But, there was a significant decline in Bolu's ranking, such as in 2000, Bolu had the highest GDP per capita after Kocaeli, while it became the 7th in 2010, and 10th in 2019. On the other hand, according to the provinces' socio-economic development index, among 81

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provinces, Bolu ranked 28th in 1996 and increased to 14th in 2003 and then raised to 11th in 2011 (SEGE, 1996, 2003, 2011).

Table 4.5 Competitiveness and Innovation Indexes of Cities, 1996-2017

Institutions		Competitiveness Rankings					Innovation Rankings				
		A	B	E	V	N. of Var.	A	B	E	V	N. of Var.
DPT[1] (SEGE)	1996	9	28	33	67	32					
DPT (SEGE)	2003	8	14	36	75	58					
URAK[2]	2008	7	44	34	57	36	14	32	53	58	7
URAK	2009	9	43	39	55	39	14	30	52	61	7
EDAM[3]	2009	22	15	38	72	52	24	13	15	47	6
URAK	2010	11	21	33	75	42	18	19	29	74	7
URAK	2011	12	20	33	78	40	17	24	32	71	7
DPT (SEGE)	2011	16	11	39	75	61					
İstanbul[4] University	2012	8	27	43	69	338	10	50	41	45	n.a.
URAK	2012	12	21	33	72	61	19	24	40	71	7
URAK	2013	15	23	25	75	61	10	31	21	28	11
URAK	2014	14	20	28	74	68	12	31	21	32	11
URAK	2015	16	17	41	78	68	12	31	21	34	11
URAK	2016	13	19	39	74	68	12	31	21	30	12
URAK	2017	16	15	36	74	85	11	34	24	30	13

Sources: 1. State Planning Organization (DPT, 1996, 2003, 2011); 2. International Research Institute (URAK, 2008, 2009, 2011, 2012, 2014); 3. The Centre for Economics and Foreign Policy Studies (EDAM, 2009); 4. İstanbul'da Bilgi Odaklı Küresel Rekabet Projesi (www.kureselrekabet.com.tr, 2012)
Notes: A: Adana; B: Bolu; E: Elazığ; V: Van

In terms of entrepreneurial activities as measured firm birth rate, Bolu generally performed higher than the national average but performed slightly below the national average in 2017. In support of this, there was a decline in the ranking of Bolu within the country, such as Bolu ranked 14th in 2000, while it declined to 17th in 2010, and then to 36th in 2017. In this regard, according to a field survey conducted by the East Marmara Development Agency (MARKA) with entrepreneurs in Bolu in 2017, entrepreneurs have limited access to finance and lack information about funding sources. MARKA also found that entrepreneurs in Bolu lack knowledge about the investment environment and lack habits to do works such as pre-research and feasibility studies required for pre-investment.

Further, Bolu has a level above the national average in terms of competitiveness. In particular, Table 4.5 shows that the competitiveness level of Bolu has made a significant leap since 2010. According to the studies conducted by the URAK, Bolu was the 43rd most competitive province in 2009, while it was 20th in 2014 and 15th in 2017.

However, as in the competitiveness level, Bolu has not been successful in innovation, although it has a level of innovation above the country's average. According to URAK data, among 81 provinces, Bolu was ranked in the worst 34th place in 2017 and ranked as the 19th best in 2010. On the other hand, Bolu was ranked 13th in the study conducted by EDAM, and it ranked 50th according to the study conducted by Istanbul University.

Moreover, as illustrated in Table 4.6, in terms of the total innovation rate, Bolu had values below the national average in 1995, 2005 and 2015, while it had values above the national average in 2000, 2010 and 2017. The ranking of the city among all provinces decreased from 17th in 2000 to 23rd in 2017. Besides, having R&D and design centres may significantly affect the innovation capacity of the cities. In this sense, Bolu has an essential advantage because it has two R&D centres but no design centre.

Case IV: Adana

Adana, locating in the Mediterranean Region, is one of the critical socio-economically developed metropolises of Turkey. In other words, with more than 2 million population, it is the 6th largest city of Turkey. However, there is a visible decline in the city's socio-economic development level in recent years, such as the ranking of Adana increased from 9th in 1996 to 8th in 2003, but this then declined drastically to 16th in 2011. Similarly, the city's GDP per capita was higher than the national average by 2000 but sharply decreased to about 73% of the country average after 2000. During the 1990-2019 period, per capita GDP in Adana increased steadily from 2,702 US dollars in 1990 to 6484 US dollars, but the ranking of the city was decreasing day by day, for example, the city, which ranked 19th in 2000, dropped to

36th place in 2019. Likewise, according to the SEGE index, among 81 provinces, the city declined sharply from 8th to 16th between 2003-2011.

Table 4.6 Innovation Activities Conducted in Cities, 1995-2017

Indicators	Years	Adana	Bolu	Elazığ	Van	Turkey
Utility Model	1995	0	0	0	0	36
	2000	4	0	0	0	453
	2005	19	0	1	0	1884
	2010	40	4	3	1	2994
	2015	32	3	5	3	3451
	2017	42	1	5	10	3256
Trademarks	1995	255	24	18	12	12805
	2000	282	49	33	21	21156
	2005	970	77	139	70	48917
	2010	1180	139	351	102	73142
	2015	1535	148	240	163	95962
	2017	1757	217	306	174	106099
Designs	1995	0	0	0	0	1492
	2000	16	1	3	0	2194
	2005	59	0	3	0	4925
	2010	56	10	2	0	6567
	2015	73	10	4	2	8291
	2017	69	4	0	0	8533
Patents	1995	2	0	0	0	170
	2000	4	0	0	1	320
	2005	8	8	0	1	960
	2010	30	7	7	3	3250
	2015	33	6	15	7	5512
	2017	53	20	25	9	8625
Total Innovation per 100 thousand population	1995	13.58	5.94	3.37	1.58	8.08
	2000	16.55	18.47	6.32	2.51	14.43
	2005	53.83	31.43	26.03	7.47	34.12
	2010	62.63	59	65.68	10.24	47.66
	2015	76.63	57.37	45.97	15.96	61.27
	2017	86.67	79.82	57.57	17.44	67.77

Source. Turkish Patent and Trademark Office (TPTO, 2017)

On the other hand, examining the entrepreneurship level of Adana in the period of 2000-2017, it was found that the level of entrepreneurship in the city gradually increased and was constantly above the national average. In terms of entrepreneurship level, Adana was the 11th province with the highest entrepreneurship level in 2000 and the 12th in 2017. These results point to the existence of an appropriate business environment in Adana that triggered entrepreneurship development.

Similarly, Adana is one of the important cities with a high level of competitiveness. However, according to the URAK, the competitiveness level of Adana decreased between 2008 and 2017. While it was one of Turkey's ten most competitive cities by 2010, it fell to 16th place after 2010. On the contrary, according to Innovation Sub-Index developed by URAK, the city's innovation capacity increased gradually during this period. While the innovation ranking of the city dropped in the 2008-2012 period, after 2012, the city becomes one of the twelve most innovative provinces in the country (see Table 4.5). Likewise, the city's total innovation activities increased gradually, and during this period, the city had an innovation activity rate of 4-5 times the country average. The city ranked 22nd in 2000 in terms of total innovation activity rate, moved forward by four steps, and ranked 18th in 2017.

Besides, the R&D projects carried out by universities and private sectors are among the main determinants of the city's innovation capacity. In that sense, one of the most critical advantages of Adana in terms of innovation is that the city has 12 R&D centres and 9 Design Centers. In this regard, with its deep-rooted industrial culture and strong academic infrastructure, Adana has a significant potential to increase its competitiveness and innovativeness level.

4.2   Research Design

Yin (2011) identifies research designs as logical blueprints. The research design does not emerge spontaneously but depends on research questions, the data to be collected, and the analysis of the data. Certain research questions necessitate the use of a particular research approach (Creswell, 2009). For instance, if the research problem aims to reveal the factors affecting the result and understand the best predictors of outcomes, it may be more appropriate to construct a quantitative research approach. On the other hand, if the number of studies on a concept or case is limited and the researcher wants to discover and understand this phenomenon, then he/she should design a qualitative research design (Bryman and Bell, 2015).

However, if the qualitative or quantitative research approach, each by itself, cannot adequately answer the research question, then a mixed research method can be designed. In a mixed research method, both quantitative and qualitative research results can be used together.

In this sense, as cited above, it is necessary to use a **mixed research method** to fulfil this thesis's objectives, obtain the best answers to the research questions, and get appropriate information for this thesis. Although there are numerous designs (Convergent, Explanatory, Transformative, Embedded, and Multiphase Mixed Methods) in the field of mixed research methods (Creswell and Clark, 2011), we used to "***the Exploratory Sequential Mixed Method***" to answer the research questions and to test the hypotheses of the study (see Figure 4.2). The exploratory sequential mixed method consists of two stages: the qualitative phase and the quantitative phase. In this method, the researcher starts by exploring with qualitative data to explore the views of the participant, analyse the data, and then use the findings to build into a quantitative phase. In other words, the second quantitative phase builds on the evidence of the initial qualitative phase (Creswell, 2009).
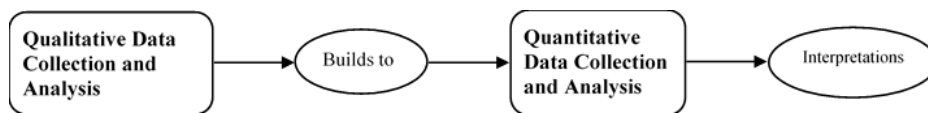
Figure 4.2. Exploratory Sequential Mixed Methods, **Source:** Creswell, 2009

As shown above, the primary purpose of this thesis is to explain how and to what extent three dimensions of institutions influence/determine the innovative entrepreneurship levels of regions in Turkey. Since the number of evidence on the impacts of the three dimensions of institutions on innovative entrepreneurship is rather limited, this thesis initially has designed a qualitative research approach to understand and explore the possible impacts of region-specific institutions on innovative activities and provide evidence for the association between these two phenomena. The qualitative research design will provide opportunities to the researcher to obtain detailed information regarding the three dimensions of institutions (regulative, normative, and culture-cognitive institutions) and their

influences on regional innovative activities, by directly talking with people, visiting their workplaces, listening to their stories and learning the history of the regions. After in-depth information is obtained from the cases, the data will be discussed and interpreted to show the relationship between the institutions and the innovative activities of entrepreneurship. Based on the themes and codes obtained from the qualitative study, the quantitative research, which is the second phase of the study, will be designed. The main purpose of this stage is to reveal the main differences between the regions and support the qualitative research findings. As a result, with the adoption of the mixed research design, it will be easy to explore and understand how, and to what extent institutional factors are influential in explaining variations in the level of innovative entrepreneurship between the regions.

4.3   Research Method: Integrating Research Methods

Research on entrepreneurship has increased rapidly in recent years, mainly due to recognising the critical role of entrepreneurship in national and global economies (Grant and Perren, 2002). However, while quantitative and qualitative methodologies were applied in these studies, quantitative studies based on empirical data are more weighted (Hill and Wright, 2001; Kusumawardhani, 2013). The dominance of quantitative research in entrepreneurship studies naturally caused some criticisms to rise. For example, Gartner and Birley (2002) have claimed that many vital issues of entrepreneurship can be ignored by only doing quantitative research. Likewise, several researchers suggest that since entrepreneurship studies involve the process of discovering and understanding complex issues related to entrepreneurship, it is quite difficult for the 'numbers' obtained as a result of quantitative research to provide comprehensive and detailed information about the phenomenon under investigation (Gartner and Birley, 2002). Besides, it is argued that quantitative analysis is not sufficient to provide insight into the behaviour of entrepreneurs or individuals (Hill and Wright, 2001).

The weaknesses of quantitative research on entrepreneurship have led to an increasing interest in applying qualitative research in this field. It has been emphasised that a qualitative approach would be more appropriate to understand entrepreneurship processes better and to show the effects of individual behaviours and ideas on entrepreneurship processes (Hill and Wright, 2001). Further, Marschan-Piekkari and Welch (2004) argued that in developing countries, it would be more beneficial to prefer a qualitative approach rather than a quantitative approach due to the lack of secondary data to support random sampling, participants' unfamiliarity with questionnaires, and the existence of trust-based social relationships. Yet, the qualitative method has been subjected to numerous criticisms because compared to the quantitative method, it does not have a well-established analysis technique, it is laborious and time-consuming, and is mainly based on subjective arguments (Curran and Blackburn, 2001).

In this regard, *the Exploratory Sequential Mixed Method* was adopted in this thesis to eliminate the weaknesses of the quantitative and qualitative methods. Researchers suggest using the mixed method allows the researcher to close the gaps in one approach by the strengths of the other approach (Creswell and Clark, 2011).

The following sub-sections describe the research methods and the instruments used in the fieldworks to collect the required data in both stages.

4.3.1   The First Phase: Qualitative Research Approach

4.3.1.1   Key Characteristics of Qualitative Research

 Qualitative research is carried out in natural settings, where people interact, and social events occur (Creswell, 2009). Yin (2011) indicates that qualitative research can be done to examine a real-world environment, discover how people are coping and succeed in this environment, and capture the contextual richness of people's

daily lives. Unlike quantitative designs, theory or hypotheses do not have to be predetermined in qualitative research (Eisner, 1991).

In qualitative research, data are obtained by examining documents, observing behaviours or interviewing participants. Researchers often do not use questionnaires or scales developed in other studies; instead, they collect data by visiting the area where participants experience problems or issues, by talking directly with participants and observing the area. In other words, individuals are not brought to the laboratory, or questionnaires are not sent to individuals to fill in. In fact, collecting data by direct contact with people, by talking to them and observing their behaviour in their contexts is a fundamental feature of qualitative research (Creswell, 2009).

In qualitative studies, data from different sources (interviews, observations, documents and audio-visual information) are then reviewed, interpreted, and categories or themes that cover the entire data set are generated. Also, the researcher focuses on understanding participants' views about the issue or problems. Creswell (2009) indicates that the qualitative research process is an emergent process, meaning that the research process cannot be planned precisely from start to finish; the process may be partially or completely changed after the researchers enter the fields and begin to collect data.

Besides, Creswell (2009) and Yin (2011) argue that the sample selection in qualitative studies should be based on purposeful selection rather than random selection. In such studies, the researcher may have the opportunity to access more information by selecting the sample according to his or her purpose. Because qualitative studies require more time and cost, researchers have to work on small samples, so the sample they choose should be the most useful. Deciding the sample size is also an important issue for social research. In qualitative research, the sample size may vary depending on the context and design of the study. For example, while one or two participants are sufficient for narrative analysis, 20 to 30 people for

grounded theory, a group of people sharing the same culture for ethnographic studies, and one or multi-cases for case studies may be required.

For this reason, there is no decision regarding sample size in qualitative studies. However, after deciding sample and sample size, researchers should identify the types of data and how they obtained the data. In qualitative research, researchers are generally not satisfied with collecting a single data type; they collect different data through observation, interview, document analysis and audio and visual materials. Lastly, data recoding is another essential feature of qualitative research.

4.3.1.2   Conducting a Qualitative Research

As mentioned above, this thesis aims to understand and explore the association between the three dimensions of institutions and regional innovative entrepreneurship levels. The literature highlights the importance of institutions in determining both the types and the levels of entrepreneurship. Many empirical studies have tried to explain the differences in entrepreneurship levels and types across countries and even between regions in a country by institutions. However, most of these studies focused on the regulative dimension of institutions rather than the normative and culture-cognitive dimensions. In that sense, this thesis attempts to explore the influences of all dimensions of institutions on the levels of regional innovative entrepreneurship. Thus, this study will primarily conduct qualitative research to understand and explore the relationship between the dimensions of institutions and innovative entrepreneurship. The research process is explained as follows.

Data Source and Gathering Techniques

Since qualitative research is usually presented in the form of a case study, this study is conducted in multiple cases: Van, Elazığ, Bolu and Adana provinces, respectively. Using the case study research approach, the main focus of this thesis is to conduct semi-structured in-depth interviews with the participants to explore the three

dimensions of institutions that each case has and to reveal the possible effects of these dimensions on regional innovative entrepreneurship activities. Although the interview questions and the program were planned in advance, the design of the interview protocol was flexible enough to allow us to evaluate the ongoing interview and to reshape the script if necessary. In addition, using semi-structured interview questions enabled us to ask participants more questions, more clarification and to further discussion, and to discuss new topics not included in the previously prepared interview questions.

To gain a deeper understanding of the cases, we adopted the purposeful sampling method to select the participants. Thus, we would be able to conduct face-to-face interviews with the people who could give important information about the three dimensions of institutions and the entrepreneurial activities in the regions. In this respect, as shown in Appendix Table 4.1, participants were recruited from different organisation and fields of study to represent as wide a variety of organisations/sectors as possible. In this regard, we obtained a list of participants from central government representatives, local government representatives, NGOs and entrepreneurs. We selected participants from the central government because they were responsible for the institutionalisation of the city, especially in the formal sense, and for the creation and definition of rules, laws, policies and incentives for entrepreneurs. It was important that there were representatives from the local government because local governments could provide the necessary public services to entrepreneurs operating in that region and provide valuable information about the general characteristics of that region. We also had interviews with NGOs representing entrepreneurs from each region because these NGOs were able to address the problems faced by entrepreneurs and convey valuable information about industrialisation and institutionalisation of the region. Lastly, we added two types of entrepreneurs operating in each province to our list of participants. The first entrepreneur is one of the oldest entrepreneurs in the region, while the other is an entrepreneur who has recently started his/her activity in the region and focused especially on innovative activities. Thus, we have the

chance to demonstrate how the institutional structure of the region affects innovative entrepreneurial activities over time.

The in-depth semi-structured interviews were conducted between 18 September and 20 October 2018 to collect qualitative data in the cases. The first fieldwork started in Van, and the last one was conducted in Adana. During this period, a total of 43 interviews were held.

Before visiting each case, we appointed the interview time with each participant about one week ago. However, due to certain reasons, we had to change sometimes the interview dates. Each interview was planned to be about 45-60 minutes to collect an abundance of quality information from the participants. However, most interviews lasted for 40-50 minutes on average, while some interviews lasted more than 90 minutes and only three interviews lasted approximately 20 minutes. Although we made appointments before visiting the cases, during the fieldworks, 3 out of 42 participants reported that there was no suitable time for in-depth interviews. The interviews were carried out at a rate of 3 to 4 interviews per day.

In addition to the data we obtained from the face-to-face interviews, field notes and observations, we also requested data from all organisations, NGOs and individuals about their researches on the cases. Most of them responded positively to this request and shared their research with us. Thus, as a result of the fieldworks done on the four cases, we obtained significant data about the institutions and entrepreneurship activities of these cases.

Interview questions created to understand the effects of institutions on innovative entrepreneurship consist of three parts (see Table 4.7). The first part includes the inquiries related to the association between the regulative dimension of institutions and innovative entrepreneurship activities. The second part consists of questions about the effects of the normative dimension of institutions on regional innovative entrepreneurship activities. Questions in the last part referred culture-cognitive dimension of institutions.

4.3.1.3   Analytical Procedure in Qualitative Data Analysis

It is vital to decide the right and appropriate analysis method to carry out successful research. In this respect, to understand and explore the influences of institutions on the formation and level of innovative entrepreneurship in selected cases, qualitative content analysis is used in this thesis.

Downe-Wambolt (1992, p. 314) emphasises that "content analysis is a research method that provides a systematic and objective means to make valid inferences from verbal, visual, or written data to describe and quantify specific phenomena". As a method of analysing documents, content analysis allows the inquirer to test the theoretical problems to understand the data. It is possible to categorise words or phrases with similar meanings into fewer content-related categories (Cavanagh, 1997). This analysis aims to obtain an intense and broad definition of the phenomenon by creating concepts or categories that define the phenomenon resulting from the analysis. The general purpose of these concepts or categories is to create a model, conceptual map or system, or categories (Kyngäs and Vanhanen, 1999).

Elo and Kyngäs (2008) argue that qualitative content analysis has the flexibility of using inductive or deductive approaches or a combination of both. Depending on the purpose of research, one of these methods is selected. The inductive approach is often used when there is no sufficient information about the phenomenon or when this information is fragmented (Lauri and Kyngäs, 2005). In inductive content analysis, the codes, categories or themes are directly derived from the data. When using inductive content analysis, the researcher can analyse the qualitative data by open coding, category formation and abstraction steps (Elo and Kyngäs, 2008).

On the other hand, deductive content analysis is used when the study aims to test an existing theory and when the analysis structure is operationalised based on previous knowledge (Elo and Kyngäs, 2008). In the deductive content approach, the researcher searches for predetermined, existing topics by testing hypotheses or

principles. In other words, it is often used when the researcher wants to retest existing data in a new context, which involves testing hypothesis, models, concepts, or categories (Marshall and Rossman, 1995). As a result, the deductive approach based on an earlier theory or model makes an inference from general to specific (Burns and Grove, 2005), whereas the inductive approach makes an inference from specific to general by generalising the information obtained from a particular sample (Mayring, 2000).

To sum up, the qualitative content analysis aims to systematically transform a large amount of text into a very organised and concise summary to achieve critical results (Erlingsson and Brysiewicz, 2017). Qualitative content data analysis consists of three basic steps (see Figure 4.3), such as selecting the unit of analysis, creating categories and creating themes. Determining the unit of analysis is a significant starting step for making the raw data more useful and manageable. In this process, the data is reviewed and converted into codes, which may consist of a single word or a few words. Next, categories are created by gathering the obtained codes according to their similar meanings and connotations (Weber, 1990). In other words, a category consists of codes that cope with the same issues. The most critical point in this process is that no data or codes should be placed in more than one category. It is also important to create enough and right categories to reflect the data and respond to the research question (Cho and Lee, 2014). Lastly, a theme is created through abstracting categories. Creating a theme is a way of linking different categories with similar basic meanings.

Despite criticism, qualitative content analysis has several advantages. For instance, qualitative content analysis gives the researcher great flexibility in terms of research design, and it is a context-sensitive analysis method (Krippendorff, 2004). In addition, it provides an understanding of social reality or events by interpreting various oral or written communication materials (Cho and Lee, 2014). The main disadvantage of this method is that it is a labour-intensive and time-consuming process, and the coding process is subjective. Therefore, it is crucial to check the

codes, categories, or themes in such analysis with a second or third eye. In other words, the reliability and validity of such analyses should be ensured.
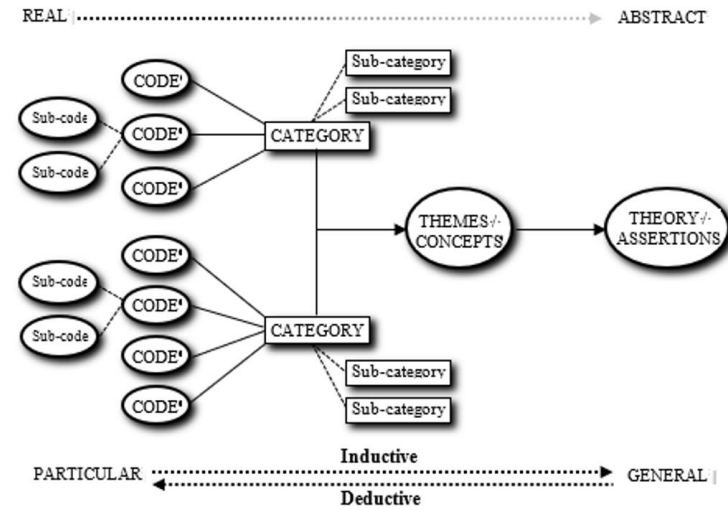
Figure 4.3. A conceptual scheme of Qualitative Content Analysis, **Source:** Adapted from Saldaña (2013)

Analytical Procedures Followed for Exploring the Association Between the Three Pillars of Institutions and Innovative Entrepreneurship

In this thesis, qualitative data analysis was carried out in a few steps. First, before the analysis, the data, field notes, and documents (e.g. research reports, articles, books, statistics, brochures, and other materials) obtained during the field survey were arranged and classified separately for each province. Second, to get a general idea of participants' responses, all audio recording was quickly listened. Next, all audio recordings were transcribed to text using the Microsoft Office Words document and the responses of the interviewees were transcribed directly and without changing. Third, after transcription, the data analysis process was started. Data analysis using Turkish transcripts was deemed appropriate to directly convey the participants' discourse without changing. While the written texts were placed on the left side of the text, the obtained condensed notes and codes were written on the right side of the page. Fourth, condensed notes and codes generated on the main text were transferred to a new word file and according to their similarities, they were grouped under certain subcategories or categories and themes.

For the first data analysis, a deductive approach was employed in qualitative content analysis. The deductive approach was performed to find out the answer to the first sub-research question of the thesis: *"How do region-specific regulative dimension of institutions (i.e., written rules, laws, regulations, government policies, incentive system, etc.) explain the difference in the levels of innovative entrepreneurship among regions?"* To answer this research question, four questions shown in Table 4.7 were addressed to the participants in the field study by taking into consideration the concepts commonly used in the literature to measure the regulatory dimension of institutions. The first question focused on the legal and procedural challenges that innovative entrepreneurship face during the foundation of a new business. The second question was asked to learn about the diversity of available financial resources (equity, angel investor, venture capital, and bank loans) for entrepreneurs and the challenges they face in accessing these financial resources.

The third question was asked to understand how the state investments and the incentive system implemented affect the formation of innovative entrepreneurship. The last question was asked to explore the roles of local governments and other central government bodies in the development of innovative entrepreneurship.

Since many studies address the impact of institutions' regulatory dimension on regional entrepreneurship activities, the answer to this research question was sought through predetermined categories. First of all, all data, including field notes, interviews and additional documents obtained in all provinces, were carefully read to create codes relevant to the regulatory dimension of institutions. Subsequently, the codes (i.e., heavy bureaucratic procedures, reduction of bureaucratic procedures, limited equity capital, current incentive system and its effects, coordination and harmonisation between organisations, etc.) obtained in this process were divided into four main categories (bureaucratic procedures, financial resources, incentives and supports, and local actors and social organisations) derived from previous research (Busenitz et al., 2000; Klapper et al., 2006; Manolova et al., 2008; Stenholm et al., 2013; Valdez and Richardson, 2013; Aparicio, 2017, so forth).

To explain the other two research questions, the inductive approach was adopted for qualitative data analysis. The reason for using the inductive approach is that there are limited number of studies examining the relationship between the normative and culture-cognitive dimensions with innovative entrepreneurship. While the second sub-research question aims to understand the influences of the normative dimension (such as, culture, norms, traditions, customs, values, beliefs, expectations, and human relations) on innovative entrepreneurial activities, the third sub-research question tries to explore the impacts of culture-cognitive dimension (e.g., perception of entrepreneurship, entrepreneurial culture, trust, cooperation, knowledge share). In order to explore the perceived attributes of the normative dimension of institutions, the 7th question was asked to the participants in the field research (see Table 4.7). Similarly, questions 1st, 2nd, 8th and 9th were asked participants to reveal the perceived attributes of the culture-cognitive dimension of institutions.

The implementation of this approach was followed by the following three steps proposed by Elo and Kyngäs (2008): preparation, organisation and reporting. The preparation step included a careful reading of the data and then the process of extracting, synthesising and defining the unit of analysis of the text related to the normative and culture cognitive dimensions of institutions. The organising step includes open coding, creating categories and abstraction. In this study, all transcripts were read very carefully several times to define open codes. While reading, the thoughts, perspectives and concepts related to these two dimensions of institutions were underlined in the text and as many titles as needed were noted on the right side of the text (Elo and Kyngäs, 2008). After completing the open coding, all the generated codes were gathered in a new word file and the categories were created freely as Elo and Kyngäs (2008) suggested. In the next step, codes having similar meanings or connotations were grouped under categories. Then, all categories were subdivided into categories or higher categories based on their relationship.

After all categories were determined, the abstraction phase was started. Abstraction means defining a general definition of the research topic by creating categories (Robson, 1993).

Table 4.7 Approaches to Analysis of Qualitative Research Questions

Research Questions	Interview Questions	Content Analysis Approach
(Main RQ) How do institutions explain the differences in the levels of innovative entrepreneurship among regions/provinces?		
(RQ1) How does the region-specific regulative dimension of institutions (i.e., written rules, laws, regulations, government policies, incentive system, etc.) explain the difference in the levels of innovative entrepreneurship among regions?	**(Q3)** How does the regulatory dimension of institutions (for example, legal permits, construction permit, day and number of documents, taxes, etc.) in this province affect the formation and development of innovative entrepreneurship? Does the institutional framework in progress support or prevent the development of innovative activities? Please explain. **(Q4)** What do you think about the access to financial resources of (innovative) entrepreneurs operating in this province? Do you think that entrepreneurs in this province have sufficient equity and/or additional financial resources (angel investor, venture capital, bank loan, etc.) to start innovation activities? **(Q5)** Can you explain the impact of the state investment and incentive system in this province on the formation and development of innovative entrepreneurship? **(Q6)** What are the roles played by local governments and other central government bodies for the development of innovative entrepreneurship? Do you think that the municipalities and other central government bodies provide enough support for the development of innovative entrepreneurship?	Deductive Approach
(RQ2) How does the region-specific normative dimension of institutions (such as, culture, traditions, customs, social values and beliefs, social expectations, human relations, etc.) explain the difference in the level of innovative entrepreneurship between regions?	**(Q7)** What do you think about the impact of the normative dimension of institutionalisation (e.g., social norms, values, beliefs, relations and expectations) on innovative entrepreneurial activities in the province? Do you think there is a relationship between the level of innovation entrepreneurship and the social norms, traditions, customs, values and relations in this province?	Inductive Approach
(RQ3) How does the region-specific culture-cognitive dimension of institutions (expressed as the basic beliefs, knowledge skills, and ability required for an individual to become an entrepreneur) explain the difference in the level of innovative entrepreneurship between regions?	**(Q1)** What is the importance of innovative entrepreneurship activities in the socio-economic development of a province? **(Q2)** How do you see innovative entrepreneurial activities and levels in this province? If you think it is low or high, please explain with reasons. **(Q8)** Do you think there is a relationship based on trust and knowledge sharing between firms / entrepreneurs in this province? In other words, do you think that the relationship and the culture of solidarity among entrepreneurs in this province are strong? **(Q9)** What is the relationship between the level of innovation activity in this province and the entrepreneurial/innovation perception of the individual or community in this province? In this province, do you think that entrepreneurship culture has improved, individual risk-taking level is high, individuals are not afraid to fail and entrepreneurs are seen as a role model?	Inductive Approach

In this study, the theme "*normative institutions that support or prevent the formation of innovation and entrepreneurial activities*", which defines the normative dimension of institution, was determined. On the other hand, "*having a weak perception of innovation and entrepreneurship in terms of the culture-cognitive institution*" theme was created for the culture-cognitive dimension of institution. These two broad themes were defined to describe four cases in general. However, since each case has its own social structure, culture, norms, values, beliefs and traditions, four different themes were formulated to reflect the normative institutional dimension of each case. Up to now, we explained the qualitative research method of the study. In the next section, we will discuss the second phase of the study, the quantitative research process, which was built on the results of the qualitative research.

4.3.2   The Second Phase: Quantitative Research Approach

4.3.2.1   Key Characteristics of Quantitative Research

Quantitative research is a form of research that analyses objective theories by examining the relationship between variables (Creswell, 2009). These variables are measured by instruments, and the enumerated data analysed using statistical methods.

Quantitative research methods are commonly designed in two ways:

Experimental Research: Experimental research is a research method used to demonstrate whether a particular treatment or intervention under certain conditions (and usually in laboratory settings) affects the outcome. The researcher tries to learn the outcome of his intervention by comparing two different groups of participants: the treatment group and the control group. Experiments can be carried out in two different ways, true experiments, formed by random assignment of subjects to

treatment conditions, and quasi-experiments, occurred in a manner that subjects are not randomly selected.

Survey Research: The survey is a research method that examines a sample representing the whole population and tries to generalise the result obtained from the sample to the population (Fowler, 2009). Survey studies may be of two different types, usually cross-sectional or longitudinal. In survey studies, data are obtained by questionnaire or structured interviews.

Unlike the qualitative research method, the quantitative research method is used to test hypotheses. In the quantitative approach, surveys are invaluable research tools used to measure and compare individuals' attitudes, beliefs, priorities, values and expectations on a particular subject (Singleton and Straits, 2005).

During the quantitative data collection, the researcher uses questionnaires with closed-ended and/or open-ended questions. However, according to De Vaus (2002), it is more appropriate to use closed-ended questions for self-administrated questionnaires, so the response rates may be higher since they require less time and effort than open-ended questionnaires. This type of questionnaire is useful, particularly when it is necessary to collect data from many participants. In this type of research, researchers can use certain scales to collect data, which may vary depending on the nature of the research and the approach of research.

On the other hand, the questionnaire consisting of open-ended questions is more appropriate when collecting more detailed information about the participants' ideas, attitudes, and behaviours (Neuman, 2006). Open-ended questionnaires allow participants to express their views clearly instead of choosing an answer from a predetermined set of answers with closed-ended questions. However, the researcher who wants to take advantage of both approaches tends to combine open and closed-ended questions in the same survey questionnaire.

Research identify different types of data collection methods in quantitative research: personal interviews, telephone, mail, the internet, or group administration (Fowler,

2009). Besides, depending on the nature of the research and research questions, researchers can use probability (i.e., simple random sample, systematic sample, stratified random sample, cluster sample) or non-probability sample selection methods (i.e., quota sample, convenience sample, snowball sample, purposive sample and theoretical sample) (Howitt and Cramer, 2011). Probability sampling is typically used when we have a clearly defined and accessible population about which we want to make inferences. In contrast, non-probability sampling is used when there are a limited number of participants or when we are not interested in getting exact population estimates for a particular feature or characteristic (Howitt and Cramer, 2011). It is also vital for quantitative research methods to determine whether the sampling design for a population is single-stage or multi-stage. Depending on the research design pattern and the characteristics of the population, the single-stage or multi-stage sampling method can be used. Also, multi-stage sample selection methods can be developed both using probabilistic or non-probabilistic sample selection methods.

4.3.2.2   Conducting a Quantitative Research

As the research design in this thesis is a mixed research design, the quantitative research method which constitutes the second stage of this thesis, will be constructed based on the findings obtained as a result of the qualitative research method.

This stage aims to reveal to what extent the regulative, normative and culture-cognitive dimensions of institutions that emerge as a result of qualitative research affect the formation of regional innovative entrepreneurial activities. We basically tried to answer the question "are institutions in the regions motivating or preventing individuals (entrepreneurs) from starting innovative activities?"

Furthermore, since we have examined four cases that are different from each other in terms of the level of innovative entrepreneurship, we aim to examine whether the data we obtain from quantitative research explains the differences among provinces.

In other words, we aim to answer the question, "how do institutional variables explain the differences in regions' innovative entrepreneurship levels?"

Data Source and Gathering Techniques: Population and Sample Size

Many researchers have discussed different methods to determine the appropriate sample size (Zikmund et al., 2010; Sekaran, 2006). However, there is no common approach in the literature about determining the sample size. Several researchers have suggested that a sample size of fewer than 30 people is very small, and it is pretty challenging to achieve a statistically significant result with this, while 100 or more sample size is acceptable if the population is large (Butler et al., 1995). On the other hand, through using significance level (alpha- α), degree of error (type I error) and power (1-type II error) values, a new sampling size method has been developed (Fowler, 2009). Therefore, the sample size may differ according to the selection of these values and the analysis methods (e.g., t-test, ANOVA, regression) used by the researcher (Malone et al., 2016).

However, the smaller the sample size, the greater the margin of error and the larger the sample size, the more accurate the results (Zikmund et al., 2010). With this warning in mind, a researcher should decide how large a sample he will choose. Of course, the economic resource, time and labour force will play a decisive role in doing so. Thus, limited resources may require researchers to sometimes work with low sample sizes. In this regard, Kelly et al. (2010) suggest a need for balance between using too few or too many subjects in the sample. While too small a sample size does not have sufficient power to statistically detect a true difference (Karlsson et al., 2003), too large a sample size can be considered unethical, resource waste and affect the feasibility of a study (Malone et al., 2016).

Since we have aimed to examine the associations between the three dimensions of institutions and the level of innovative entrepreneurship, the total number of all firms, in each case, carrying out activities in the high-tech and mid-high tech

manufacturing sectors according to the high-tech classification based on NACE Rev. 2 at 3-digit level of manufacturing industries, which is the EU standard classification of productive economic activities, represents the total population of the quantitative research phase of this thesis. We could only choose the firms operating in the high-tech class, but as the number of firms in this class was very low in some cases, we had to add firms in the mid-high-tech class. Accordingly, the total number of populations was accounted as 771, which includes 73 firms in Van, 122 in Elazığ, 60 in Bolu and 516 in Adana, respectively.

After deciding the population size, we determined the procedures used to compute the sample size. In survey research, researchers generally make sample size selection based on either a certain percentage of the population (say, 5 or 10 %) or a typical size used in previous studies or an error rate that they can tolerate (Creswell, 2009). However, according to Fowler (2009), all these approaches have certain deficiencies. Flower recommended that while determining the sample size, researchers should consider the analysis methods to be used in the study. After the sub-groups were defined for analyses to be used in the study, he proposed to use the table, which can be seen in many statistics books, in determining the sample size (Flower, 2009). For this study, following Yazıcıoğlu and Erdoğan (2004) and Flower (2009), the possible sample sizes were calculated with the following formula using different ratios of the confidence interval, error margin and power values (see Appendix Table 4.2 ($\alpha =$ 0,05)). According to this formula, the minimum sampling size is around 160, with a 95% confidence interval, error margin of 0.1 and power 0.8.

$$N = \frac{N * t^2 * p * q}{(d^2 * (N - 1)) + (t^2 * p * q)}$$

α= Significance level,
N= Population size,
t= Z score,
p= Observation rate of X in the universe,
q (1-p)= Unobserved rate of X in the universe,
d= Sampling error.

However, when using the G*Power program working with these values and effect size as well, the sample size required for ANOVA analysis varied between 73 and 179, while the sample size for multiple regression analysis ranged between 48 and 107 (see Appendix Figure 4.1A and 4.1B).

Table 4.8 Figures Describing Data Collection Process in the Cases.

Number of Firms/Cases	VAN	ELAZIĞ	BOLU	ADANA	TOTAL
Total Number of Firms in Manufacturing Sector	463	752	243	1733	3191
Total Number of Firms in High- and Medium-High Tech Sectors	73 (16%)	122 (16%)	60 (25%)	516 (30%)	771 (24%)
Total Number of Firms Visited (A)	53	50	43	124	270
Total Number of Closed Firms	10	5	4	13	32
Total Number of Rejections	7	6	6	49	68
Total Number of Firms Surveyed (B)	36	39	33	62	170
Response Rate (B/A)	68%	78%	77%	50%	%63

Sources: Van Chamber of Commerce and Industry, Elazığ Chamber of Commerce and Industry, Bolu Chamber of Commerce and Industry, Adana Chamber of Industry, 2018
Notes: Parentheses show the ratio of medium-high and high-technology firms in the total manufacturing industry firms.

For this reason, a multi-stage sampling selection method was adopted to increase the reliability of the study and to keep the representative power of the sample high. Firstly, we chose the disproportionate stratified sampling method to determine the sampling size from different cases. However, if we decided on the proportional stratification sampling method, we would have to survey less than 30 companies in Van and Bolu provinces, which would prevent us from reaching meaningful results in future analysis. Secondly, after determining the sample size for each region, the number of companies selected for each province was listed by the random sample selection method. The random sampling ensured adequate representation of companies with different sizes and sectors. Finally, 270 companies were listed using the multi-stage sampling method, which corresponds to 35% of the total population. But, only 170 entrepreneurs could be surveyed because some of the companies visited were closed, while others were not eligible or appropriate. Table 4.8 demonstrates the distribution of the firms according to the provinces.

Questionnaire Design and Data Collection Tool

A questionnaire is a useful tool used by many researchers to collect quantitative data. Bryman (2008) defines a questionnaire as a research process in which information is collected by asking participants to personally answer many predefined questions. One of the main points to be considered in the development of the questionnaire is that the questionnaire questions, as a whole, should be consistent and contain all the necessary information to answer the research questions (Dunn and Huss, 2004). Each question in the questionnaire should be related to research questions and hypotheses. For these reasons, researchers' self-administered questionnaires should be created based on a comprehensive review of the literature and previously used and tested instruments (Kusumawardhani, 2013).

In this sense, after a comprehensive and detailed literature review, an analytical and exhaustive semi-structured questionnaire was designed to reveal how the regulative, normative and culture-cognitive dimensions of institutions affect the innovative entrepreneurial activity levels of the provinces. With the literature review, the findings obtained from the qualitative research were also added to the survey questionnaire so that the results obtained from the qualitative study can be supported numerically, as well as the differences between the provinces will be more easily noticed. The survey questionnaire consisted of five sections: general information about entrepreneurs and companies, innovation activities, regulatory dimension, normative dimension and culture-cognitive dimension.

The first section included open-ended and closed-ended questions aiming to collect demographic information about the background of the entrepreneur and the company. Data were collected on the individual entrepreneurship story, investments and current activities of the participant. Besides, information was collected about the field in which the company operates, when it was founded, its capital and partnership structure, the number of employees and the quality of its employees.

The second section, trying to measure the innovation and R&D capacities of firms, was adapted from previous empirical and theoretical studies on innovation (Oslo

Manuel (OECD), 2005; Frascati Manual (OECD), 2002; Altug, 2017). This section included five questions.

Section three was formulated based on the findings as a result of both the literature (Bjørnskov and Foss, 2016; Wennekers, 2006; Baumol and Strom, 2007; Hall and Sobel, 2008; Amorós, 2009; Alvarez and Urbano, 2012; Urbano and Turró, 2013; Urbano and Alvarez, 2014; Cardoza et al., 2016) and qualitative phase. This section consisted of open and closed-ended, and multiple-choice questions. In this section, data was collected on the supporting and disabling effects of the regulatory dimension of the institutions on innovative entrepreneurship activities.

In the fourth section, there were various questions about obtaining information about the supportive and preventive effects of the normative dimension on innovative entrepreneurship activities, which were derived from the previous studies (Mueller and Thomas, 2001; Verheul et al., 2002; Dakhli and de Clercq, 2004; Alvarez and Urbano, 2012; Arasti et al., 2012; Valdez and Richardson, 2013; Elert et al., 2017; Grillitsch, 2018) and the findings from the qualitative phase.

Adapting from the literature (Huggins and Williams, 2011; Doh and McNeely, 2012; Alvarez and Urbano, 2012; Karlsson, 2012; Pathak et al., 2015; Lim et al., 2016; Grillitsch, 2018), the effect of culture-cognitive dimension on innovative entrepreneurship activities was explored in the last section, which also contained the findings of the qualitative phase.

There is no clear rule about the number of scale points that indicates an ideal number, but many researchers have suggested that the scales of five and seven are the best scales reflecting the participants' views (Sekaran, 2006). Apparently, researchers indicated that a five-point scale is at least as good as other scales (Parasuraman et al., 2004; Sekaran, 2006). Thus, in this study, to obtain a wide range of data from entrepreneurs on their perceptions and views on the three dimensions of institutions, the items in the questionnaire were scaled using the five-point Likert scale, where a scale value of one indicates strongly negative attitude, while the value of five represents a strongly positive attitude. In addition to continuous scaling, questions

based on categorical and ordinal scaling were also included in the survey questionnaire. The questionnaire consisted of 31 questions that were either open-ended or closed-ended with many items or multiple-choice questions.

In addition, some of the items in the questionnaire were reversed to increase the attention of participants and to minimise response bias referring to measurement errors. Researchers have recommended that some items in the questionnaires should be reversed because this strategy prevents participants from giving similar results without reading the items due to boredom, lack of attention, hurry or other reasons (Sekaran, 2006). In other words, reversing the items prevented the participants from responding mechanically. However, in the analysis phase, the expressions those are scaled negative need to be converted back to positive expressions and scaled again.

Lastly, the questionnaire was prepared in Turkish, which allowed participants to answer the questionnaire in their language that they were most comfortable with. Then, the questionnaire was translated into English.

Data Collection Process

During the qualitative study, conducted between 18 September and 20 October in 2018, the list of all companies operating in the manufacturing sector in all four cases was obtained from the Chambers of Commerce and Industry in those provinces. These lists included information about all companies' fields of activity according to NACE Rev2 six-digit numerical code, along with their names, addresses, phone numbers, e-mail addresses and years of establishment.

Using these lists, the population and sample sizes were determined for each province. Then, after creating lists for each province, the geographic distribution of these companies in the provinces, that is, their locations were examined. After that time, planning was done for the survey.

In this survey study, instead of collecting data by e-mail or telephone, the face-to-face (door-to-door) technique was preferred. The reason for this is the concern that the participants may be reluctant to participate in the survey by phone or e-mail, and

the level of participation can be low. A questionnaire with this technique can be filled in two ways: the researcher gives the questionnaire to the participants, and the participants can fill them out by reading the questions themselves, or the researcher can ask the questions and record the participant's answers. The second method was mostly preferred for this research. Previous studies highlighted a number of advantages of this technique, such as it was suggested that by choosing this method, participants can be more willing to participate in the research (Zikmund et al., 2010). This technique also allows the researcher to explain in more detail the points that the participants do not understand (Sekaran and Bougie, 2009). However, the researcher's allocation of time to each participant makes this method costly and time-consuming (Kusumawardhani, 2013).

For this research, the survey started first on 17 September 2019 in Van and was conducted in Elazığ, Bolu and Adana, respectively, and ended on 12 October 2019. During the survey, 270 randomly selected companies were visited, but since 32 of these firms ceased their activities and 68 of them did not want to participate in the research, a total of 100 firms could not be surveyed (see Table 4.8). However, as expected from the face-to-face survey techniques, a high participation rate of 63 per cent was achieved. While entrepreneurs in Adana were more reluctant to participate in the survey, it was observed that the participants in Bolu and Elazığ were more willing. Therefore, while the participation rate in Adana remained at 50%, it was 78% in Bolu, 77% in Elazığ and 68% in Van. Finally, in all completed questionnaires, it was observed that the participants answered most of the questions, and there were almost no missing answers in the section especially related to the three dimensions of the institutions.

Pretesting the Questionnaires

Pilot testing or pretesting of the questionnaires means formal testing of the questionnaires on a small number of participants (Zikmund et al., 2010). A pilot test or pretesting is conducted by evaluating the questionnaires by a small group of participants to remove the incompatible items and add missing items in the

questionnaires, to make questions more understandable and thus, to measure the variables more easily (Neuman, 2006). Zikmund et al. (2010) also defined the pretesting as a stage to ensure how appropriate the scale proposed in the questionnaire is and how all questions and instructions are understood as intended before distribution to the target population.

For this study, the pilot testing or pretesting process developed as follows. Firstly, I created a survey questionnaire based on a comprehensive and detailed review of the literature. Secondly, I sent the first draft of the questionnaire to my supervisor. After examining the questions, my supervisor stated that there were important deficiencies in the questionnaire. In particular, she noted that the results of the qualitative phase were not sufficiently included in the questionnaire. She also reported that the items related to the three dimensions of the institutions are complex and need to be reviewed and grouped again. Besides, uncertain terms, difficult phrases and double questions were other problems that needed to be fixed in the first draft. Thirdly, after this useful feedback, I added many items from qualitative research into the survey questionnaire, re-grouped items, made ambiguous items understandable, and eliminated duplicate questions. Four, after these changes, I sent the questionnaire back to my supervisor, and she gave only minor corrections. Five, after this feedback, I worked with an academician in the psychology department who is very experienced in surveys to reshape the questionnaire form. Six, after finalising the questionnaire, I reviewed the questionnaire with several entrepreneurs. Apart from the minor corrections I obtained, I received positive feedback from all participants regarding the questionnaire. But I had to admit that the survey took a little longer. Finally, after all these processes, the final draft of the questionnaire was approved by my supervisor and was attached in Appendix Table 7.1A (with reversing items).

4.3.2.3   Analytical Procedures in Quantitative Data Analysis

This section explains the process of preparing the data obtained during the survey research for analysing process. First, we transferred the data gathered from the

survey questionnaires from survey papers to SPSS. In the next stage of the study, we gave short names to all the data transferred to SPSS (Statistical Package for the Social Sciences, version 22). However, we explained what the data means in the label section of SPSS. Depending on the data structure, variables were processed in SPSS as scale, nominal or ordinal.

After completing the data transformation process, we prepared the variables for the analyses. To do this, first of all, all the reversing variables were re-encoded in SPSS and the directions of their scale were reversed. Thus, all variables to be used in the analyses were provided to look in the same direction. In addition, some variables were combined or categorised to understand the differences between the cases easily.

After all these works, missing values were checked, especially concerning the three dimensions of institutions, through running a frequency test for each variable. Since the survey questionnaires were carried out by the researcher himself, he encouraged and led all participants to answer, especially the questions related to the three dimensions of the institutions, to avoid such a problem. In the last review, no missing values were found for the three dimensions of institutions, but a number of missing values were detected in the demographic and innovation information sections about the entrepreneur and the firm. Due to the time constraint or unwillingness/hesitation of entrepreneurs, there were many missing values in these sections. However, it is worth note that the proportion of respondents was relatively high. After all, data was examined and cleaned, they were made ready for the next phase, the analysis process.

Preliminary Data Analysis

In this thesis, preliminary data analysis was carried out for the subsequent analyses to yield healthy results. In this context, it is first checked whether there are outliers among the data. Then, the data is tested to see if it is normally distributed, and finally, the multicollinearity issue is addressed.

Outliers

Some answers given to an item to be distinctly different from general answers are defined as outliers (Tabachnick and Fidell, 2013). Outliers may distort analysis results, so they should be identified, reported and corrected if necessary (Tabachnick and Fidell, 2013). In this study, the values of all items were converted to standard scores (z-scores) to detect outliers. According to Tabachnick and Fidell (2013), z-scores exceeding (+/-) 3.29 could be considered potential outliers. After examining the z-scores of all items, no absolute value greater than 3.29 was determined.

Normality

Tabachnick and Fidell (2013) stated that it is useful to perform the normality test, although it is not mandatory. The normality test is used to reveal whether the answers in a data set are normally distributed or not. As in many studies, in this study, Skewness and Kurtisos tests were conducted to examine the normal distribution of the data set (see Appendix Tables 6.1A-6.1D). According to Bernard (2000), data with values of Kurtisos and Skewness between -2 and +2 can be assumed to have a normal distribution. In this study, no items and factors of the dimensions of institutions exceeded these values. That's why the data can be considered to have a normal distribution.

Multicollinearity

Multicollinearity shows the relationship between independent variables. In other words, a strong correlation between predictors is identified as the problem of multicollinearity. Multicollinearity can increase the variance of coefficient estimates and make the estimates more sensitive to small changes, so it is important to address this problem before most analyses. The presence of multicollinearity makes it challenging to determine the impact of each predictor and to select predictors. In this study, the multicollinearity issue among variables was detected by looking at the Pearson correlation matrix. According to Tabachnick and Fidell (2013), if the correlation value between variables is equal to or higher than 0.9, a multicollinearity

problem can be mentioned here. For this reason, deletion of one of such strongly related variables has been proposed, or it is almost inevitable that misleading results will occur if it is put into analysis at the same time. In this study, correlation matrixes indicated in Appendix Table 6.1E revealed no correlation among variables greater than 0.6. In other words, there is no multicollinearity issue for this study.

CHAPTER 5

ANALYTICAL PROCEDURES AND RESULTS OF THE QUALITATIVE PHASE

This chapter consists of three main sections to answer the researches questions described above, which aim to explore the perceived attributes of the regulative, normative and culture-cognitive dimensions that represent the formal and informal institutions. The first section aims to introduce the general findings of the qualitative analysis. In this section, the general themes and categories obtained from the analysis are defined, and then the focus will be on what these themes and categories mean and what they show us. In this sense, the second section will focus on these themes, categories and codes to compare the cases. In other words, this section aims to highlight the main differences between the cases in terms of the supportive and/or preventive roles of institutions in determining the levels and types of entrepreneurial activity. Thus, this section attempts to reveal how the regulative, normative, and culture-cognitive dimensions of institutions explain the differences in the levels of innovation-oriented (or innovative) entrepreneurship across the cases. The last section is devoted to the evaluation of the findings from qualitative analysis.

5.1   General Findings

Through conducting qualitative content analysis, this study aims to explore the perceived attributes of the three dimensions/pillars of institutions, namely regulative, normative and culture-cognitive institutions and their impacts on the formation and development of innovative entrepreneurship. Since institutions condition entrepreneurship, this section attempts to present the perceived attributes of the three dimensions of institutions that may support or hinder the formation and development of innovative entrepreneurship. In this section, the codes, categories and themes

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obtained from the deductive and inductive qualitative content analysis are presented, while at the same time the results of qualitative content analysis are supported by quantitative content analysis results to provide a better understanding of the importance of these codes, categories and themes. Thus, the differences between the cases can be more clearly understood both quantitatively and qualitatively.

In general terms, as a result of deductive and inductive qualitative content analysis, three general themes, three sub-themes and sixteen categories were obtained.

Firstly, since there is sufficient literature on the regulative dimension, the deductive qualitative content analysis was applied to reveal the impact of this dimension on regional innovative entrepreneurial activities. As a result of the deductive qualitative content analysis, the first theme of the study, '*the existence of weak and malfunctioning regulatory institutions'* and four categories forming this theme were determined: *'bureaucratic procedures', 'financial resources', 'incentives and supports'* and *'local actors and social organizations'*, respectively. All these categories were adapted from previous similar studies to here.

Secondly, to reveal the effect of the normative dimension on the formation and development of innovative entrepreneurial activities, inductive qualitative content analysis is used. As a result of the analysis, it was discovered that the four cases had quite different perceptions concerning the normative institutions. As a result, a general theme, '*normative institutions that support or prevent the formation of innovation and entrepreneurial activities*' and three sub-themes were defined for each case. These are *'a social structure with culture, values, beliefs, and norms that suppresses or pushes the formation of innovative thinking', 'demographic, social and economic constraints and opportunities'* and *'regional/political location'*. The first sub-theme includes *'collective perceptions and values'* and *'social-economic situation'* categories, while the second sub-theme consists of *'demographic structure', 'urbanization and urban life'* and *'economic activities'* categories, and the last sub-theme contains only one category *'regional/political location'*.

However, the *'social-economic situation'* category is available only in Bolu, while the *'urbanization and urban life'* category is not available only in Bolu.

Table 5.1 The Frequency of Mention of Perceived Attributes of the Pillars of Institutions

Themes, Categories, and Codes	Van		Elazığ		Bolu		Adana		All Cases	
	FRQ	%	FRQ	%	FRQ	%	FRQ	%	FRQ	%
Theme I: The existence of weak and malfunctioning regulatory institutions.	**108**	**27%**	**120**	**36%**	**67**	**17%**	**155**	**32%**	**450**	**28%**
CTG1: Bureaucratic procedures	21	5%	24	7%	10	2%	27	6%	82	5%
CTG2: Financial resources	15	4%	17	5%	14	3%	19	4%	65	4%
CTG3: Incentives and supports	40	10%	40	12%	19	5%	61	13%	160	10%
CTG4: Local actors and social organizations	32	8%	39	12%	24	6%	48	10%	143	9%
Theme II: Normative institutions that support or prevent the formation of innovation and entrepreneurial activities.	**178**	**44%**	**101**	**30%**	**160**	**40%**	**195**	**41%**	**634**	**39%**
Theme 2.1. A social structure with culture, values, beliefs and norms that suppresses or pushes the formation of innovative thinking.	*89*	*22%*	*63*	*19%*	*124*	*31%*	*58*	*12%*	*334*	*21%*
CTG 1: Collective perceptions and values	89	22%	63	19%	92	23%	58	12%	302	19%
CTG 2: Social economic situation	0	0%	0	0%	32	8%	0	0%	32	2%
Theme 2.2: Demographic, social and economic constraints and opportunities.	*43*	*11%*	*21*	*6%*	*28*	*7%*	*91*	*19%*	*183*	*11%*
CTG1: Demographic structure	17	4%	16	5%	16	4%	38	8%	87	5%
CTG2: Urbanization and urban life	9	2%	1	0%		0%	5	1%	15	1%
CTG3: Economic activities	17	4%	4	1%	12	3%	48	10%	81	5%
Theme 2.3: Regional / political location.	*46*	*11%*	*17*	*5%*	*8*	*2%*	*46*	*10%*	*117*	*7%*
CTG1: Regional/political location	46	11%	17	5%	8	2%	46	10%	117	7%
Theme III: Having a weak perception of innovation and entrepreneurship in terms of the culture-cognitive institution.	**120**	**30%**	**114**	**34%**	**175**	**44%**	**127**	**27%**	**536**	**33%**
CTG1: Innovation perception and capacity	30	7%	26	8%	15	4%	21	4%	92	6%
CTG2: Institutionalization and innovation capacity of companies	31	8%	32	10%	62	15%	42	9%	167	10%
CTG3: Inter-company networks	29	7%	21	6%	30	7%	35	7%	115	7%
CTG4: Entrepreneurial culture	13	3%	9	3%	18	4%	16	3%	56	3%
CTG5: Perception of entrepreneurship	17	4%	26	8%	23	6%	13	3%	79	5%
CTG6: Industrial structure	0	0%	0	0%	27	7%	0	0%	27	2%
General Total	406	100%	335	100%	402	100%	477	100%	1620	100%

Lastly, through using inductive qualitative content analysis, the theme of '*having a weak perception of innovation and entrepreneurship in terms of the culture-cognitive institution*' were described to display the role of the culture-cognitive dimension of institutions in determining the innovative entrepreneurship levels of the provinces. The last theme consists of six different categories, such as *'innovation perception and capacity', 'institutionalization and innovation capacity of companies', 'inter-company networks', 'entrepreneurial culture', 'perception of entrepreneurship'* and *'industrial structure'*, respectively. But, the last category, '*industrial structure*', is available only in Bolu, while the other categories are available for all cases.

Once all codes, categories and themes were identified, their frequency of mention was calculated. Table 5.1 presents the frequency of mention of the themes and categories both in total and by case. According to the table, the theme with the highest frequency of discourse was the second theme representing the normative dimension of institutions with 39 per cent, followed by the third theme representing the culture-cognitive dimension with 33 per cent and the regulatory dimension theme with 28 per cent. This result implies that informal institutions, including the normative and culture-cognitive dimensions, are more important than the formal institutions, including the regulative dimension in determining the innovative entrepreneurship levels of the cases. Aparicio (2017), in his PhD thesis entitled "Linking Institutions, Entrepreneurship, And Economic Development: An International Study" arrived with similar results.

Comparing the cases, the theme related to the normative dimension of institutions was most cited in Van (44%) and Adana (41%) provinces, while the theme regarding to the regulatory dimension and the culture-cognitive dimension were most cited in Elazığ (36%) and Bolu (44%), respectively.

In terms of categories, in total samples, the first three categories with the highest frequency of mention are 'collective perceptions and values' (19%), 'institutionalization and innovation capacity of companies' (10%) and 'incentives and supports' (10%).

On the other hand, 'collective perceptions and values' has the highest frequency of discourse for Van (22%), Elazığ (19%) and Bolu (23%) provinces, while 'incentives and supports' have the highest frequency of mention for Adana (13%). However, the category with the second-highest frequency of mention in Adana was 'collective perception and values' with 12%. These results imply that norms, values, beliefs and traditions are more important than other factors in determining the innovative entrepreneurship levels of the cases in general. However, since Adana experienced adverse effects of the incentive system, which came into force in 2012 in Turkey, most of the participants in Adana pointed out the negative effects of the incentives.

5.2   Comparison of the Cases based on Content Groups

Combining North's (1990) approach of formal and informal institutions and Scott's (1995) institutional pillars, this section aims to present the impacts of institutions' regulative, normative and culture-cognitive dimensions on the formation and development of regional innovative entrepreneurial activities.

In the first subsection, the relationship between regulatory dimension of institutions and innovative entrepreneurship will be discussed. In the second sub-section, since each province is quite different from each other in terms of normative institutions, a separate sub-heading will be created for each province and the supportive and preventive effects of normative dimension on regional innovation activities will be evaluated. The last sub-section will present the perceived attributes of culture-cognitive institutions and their regional innovative entrepreneurial activity effects.

5.2.1   Theme I: The existence of weak and malfunctioning regulatory institutions.

The regulative dimension of institutions which consists of government laws, rules, regulations, policies and incentives, determines a framework that shapes the interaction between individuals and organizations (Scott, 1995). The regulative

dimension can either promote or hinder the development of entrepreneurship in a region by identifying the risks associated with establishing and starting a new business (Baumol and Strom, 2007). Since the regulatory dimension affects access to resources and bureaucratic procedures required to establish new companies, it is an essential determinant of regional entrepreneurship level (Busenitz et al., 2000; Verheul et al., 2002). In other words, the presence of administrative burdens, procedures and bureaucracy related to starting or closing a business in a region (Veciana and Urbano, 2008), and the availability of financial resources and state supports required to create a new business in that region may influence the level of innovative entrepreneurship in that region.

Parallel to these discourses, this section aims to show the impacts of the regulative dimension of institutions on regional innovative entrepreneurial activities. As a result of qualitative content analysis, the theme of *"the existence of weak and malfunctioning regulatory institutions"* was identified. The existence of heavy bureaucratic procedures, difficulty in accessing financial resources, inefficient use of incentive system and state supports and the presence of local actors with little responsibility were common characteristics of all cases and had led to the definition of this theme.

According to the in-depth interviews and content analysis, four sub-dimensions (categories) of the regulatory dimension of institutions affecting regional innovative entrepreneurship levels were described: *'bureaucratic procedures'*, *'financial resources'*, *'incentives and supports'* and *'local actors and social organizations'* (in Appendix Table 5.1B).

Bureaucratic procedures

With a frequency of 18%, bureaucratic procedures become the third category with the highest frequency of mention concerning the regulatory dimension of institutions. Among the codes under this category, only 'heavy bureaucratic procedures' and 'reduction of bureaucratic procedures' were the expressions shared by the participants in the four cases and codes with the highest frequency of mention

in all cases (see Appendix Table 5.1B). Participants in all cases agreed that heavy bureaucratic procedures are still an essential obstacle to regional innovative activities. As a country, Turkey is stuck in bureaucratic procedures and may take a stricter stance when applying rules and laws, such as EU legislation (A2). Therefore, lengthy procedures and the high costs associated with bureaucratic procedures may adversely affect innovative entrepreneurship activities (V4, E10, B8, and A11). The participants also noted that the problems related to bureaucracy are still continuing and that the processes are crawling (E5). In fact, an entrepreneur in Elazığ exaggerated, saying that there are no such heavy procedures anywhere in the world (E5).

Table 5.2 Historical Data -Procedures and Time required to start a new business in Turkey-

	2018	2017	2016	2015	2010	2009	2008	2007	2006	2005	2004
Procedures (number)	7	7	8	8	7	7	7	7	7	7	14
Time (days)	6.5	6.5	7.5	7.5	7	7	7	7	7	7	39

Source: WB (World Bank, Ease of Doing Business)

However, the participants in all cases also agreed that the bureaucratic procedures in Turkey have started to decline thanks to the recent positive developments including the decrease in the number of procedures and the days required to start a new business, establishment of e-government system, development of electronic signatures and other online transactions. For example, a participant in Van said that *"I think the bureaucratic procedures have been reduced. Now, a person with a business idea can easily set up his company within a week."* (V7). Similarly, it was suggested that *"formerly existing laws, regulations and circulars are getting lighter and diminishing day by day. The procedures and correspondence that last for days decrease every day, making it easier for people to work. Is it enough, of course not enough"* (A2) (see Appendix Table 5.1A). Findings support previous studies

suggesting that due to the heavy costs they impose on entrepreneurs, burdensome or excessive regulations are critical obstacles to new business formations (van Stel et al., 2007; Klapper et al., 2006). De Soto (1990) explained low entry rates in developing countries with regulatory entry burdens. On the other hand, the World Bank Easy of Doing Business report confirmed the expressions of participants on the reduction of bureaucratic procedures (see Table 5.2).

Apart from these, only participants in Van pointed out another problem in bureaucratic processes, such as 'the favouritism and discrimination in bureaucratic procedures'. It was implied that people who have acquaintances in government organizations and among politicians could do their job more efficiently. Could it be that the presence of tribalism in Van caused such a situation to emerge?

On the contrary, participants in Elazığ stated that the executives working in the region recently started to act with the logic of the private sector. This was a positive development in easing the bureaucratic processes. They stated that new managers play a facilitating role in starting a new business (see Appendix Table 5.1A).

In addition, the participants emphasized that although there are no differences between the provinces in terms of the bureaucratic procedures, there are significant differences between the provinces in implementing the procedures, which is due to the cultural differences between the provinces. For example, a participant in Elazığ suggested that" *as far as I can see there is a formal distance between people in metropolises like İstanbul, whereas bilateral relations, dialogues and communication among people in East and Sout-east provinces are stronger. This is reflected in their work and behaviour in state institutions. While the rules are applied in the most detailed way in the former, they are stretched as much possible as in the latter cases*" (E9).

On the other hand, the participants in Bolu and Adana defined 'failure to abide by bureaucratic procedures or avoidance' as another important problem of the bureaucratic procedures. They suggested that entrepreneurs do not know the rules and procedures sufficiently and that most of them see everything as a paperwork

burden. In addition, participants, particularly those who represent the state institutions, stated that the most critical challenge they faced is that entrepreneurs could not use computers and the Internet (B3, A11).

Besides these, participants in Adana touched upon an essential issue regarding regulation and bureaucratic procedures. It was emphasized that due to a centralized management approach, the regulations or procedures prepared at the centre (in Ankara) do not consider the local characteristics. In other words, it was stated that the legislation drafted at the desk do not comply with the local because each province has unique features. *"An entrepreneur in the Aegean is not the same as an entrepreneur in Adana or an entrepreneur in Van because the perspectives, opportunities, environmental conditions, in short, everything of the entrepreneur in everywhere is different"* (A5).

Contrary to the above opinions, some participants in Bolu and Adana underlined that 'bureaucratic procedure or legislation does not affect innovation activities'. For instance, a participant in Adana expressed that *"I do not believe that they (procedures or legislations) affect innovative activities. The man called entrepreneur takes the necessary action"* (A1). However, such contradictory views cannot eliminate the fact that heavy bureaucratic procedures are a significant obstacle to regional innovation activities.

Financial Resources

The availability of financial resources and the ease and difficulty of access are other primary concern for individuals in starting a new business (Engelschiøn, 2014). Previous studies highlighted that financial constraints are an essential obstacle to entrepreneurship and innovation activities (Spencer and Gomez, 2004; Cetindamar et al., 2012). Several entrepreneurship scholars suggest that entrepreneurs often have difficulty accessing financial capital, but easy access to finance may stimulate the emergence and success of potential entrepreneurs (Low et al., 2005). Consistent with these, participants in the four cases highlighted the importance of financial resources and identified it as a component of the regulatory dimension of institutions.

According to the content analysis, the financial resource category with 14% of a frequency of mention was the fourth most mentioned category among institutions' regulatory dimension.

The results showed that 'limited equity capital' and 'difficulties in accessing financial resources' were common problems that were seen and most highlighted in four cases. Participant in the four provinces stressed that equity capital is essential to starting a new business and that most entrepreneurs start a new business without sufficient initial capital. For instance, a participant in Van argued that *"most people who want to start a new venture in this region do not have the initial capital. However, entrepreneurship requires a certain amount of initial capital…"* (V7). The participants also stated that entrepreneurs in all provinces suffered from access to financial resources. Besides, as additional financial resources, it was claimed that the concepts and instruments such as angel investor and venture capital are not widespread in these provinces and throughout the country. Many participants stated that concepts such as angel investor and venture capital are distant concepts for entrepreneurs here because the number of investors who want to risk their money is quite limited (see Appendix Table 5.1A).

As evidenced by the participants' discourses and observations in the field, mechanisms such as angel investor and venture capital have not developed in any of the cases, even though in many countries, especially in Europe and the US, they are widely accepted and used as a critical supporting tool for innovation activities. The participants' limited capital accumulation and high-risk aversion tendency have been shown as substantial obstacles to developing such mechanisms.

Likewise, 'difficulties in access to bank loans' was expressed by the participants in Van and Elazığ as another problem of accessing financial resources. Remarkably, participants in Van claimed that banks are quite reluctant to give credits to entrepreneurs due to the security issue in the region. On the other hand, participants in Bolu and Adana suggested that 'bank loans' are the most important financial resources for entrepreneurs, but 'high-interest rates' remain a significant obstacle for

entrepreneurs to access finance. For instance, another participant in Adana said that *"in our conversations with banker friends, they said that due to the increasing interest rates in recent days, the rate of bank loan utilization has decreased significantly."* (A2).

Lastly, participants in Elazığ stated that although access to financial resources in this province is difficult, there is a significant amount of 'cushion of capital'(yastık altı birikim) (see Appendix Table 5.1A).. This situation is not unique to Elazığ, but also all other provinces in the country. According to the General Manager of Istanbul Gold Refinery, there are about 200 billion US Dollars of gold accumulated by people in Turkey, but this money is not in the economy (www.aa.com.tr, 2018[17]).

Incentives and supports

Governments developed many different policies to support entrepreneurial activities in developed and developing economies, such as various incentives (including tax exemption, loan guarantee schemes, social security premium support, interest support, and land allocation) or direct investment supports (Verheul et al., 2002). As a developing country, similar strategies and instruments are used in Turkey to ensure economic development and support entrepreneurship activities. Turkey also has an incentive regime for decades. However, due to the ever-changing local and international environment, changes were made to the incentive system, and the last one was made in 2012. According to this incentive system, the provinces' amount and duration of support vary considerably depending on the regional classifications of the provinces. 81 provinces in the country are divided into 6 different regions according to their socio-economic development rankings. Depending on this classification, the provinces in 1st Region are the most developed ones, such as İstanbul, Ankara, İzmir and among others, while those in 6th Region are the least developed provinces, including Van, Hakkari, Muş, and so forth. Therefore, it is

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[17] https://www.aa.com.tr/tr/ekonomi/istanbul-altin-rafinerisi-genel-muduru-esen-yastik-altinda-yaklasik-200-milyar-dolar-var/1105152

essential to examine the impact of incentives and government supports on regional innovation activities. According to this classification, Adana and Bolu are located in the 2nd Region, while Elazığ in the 4th Region and Van in the 6th Region. However, with the introduction of the "center of attraction" program in 2016, investments made in Elazığ Organized Industrial Zone have started to be evaluated within the scope of 6th Region incentives.

According to the content analysis results, with a 36% frequency of mention, 'Incentives and supports' was the most mentioned component of the regulatory dimension of institutions. There are significant perceptual and opinion differences between the cases regarding the impact of incentives and supports on regional entrepreneurship and innovation activity, as expected. In this respect, participants in different cases have diverse expressions about the 'current incentive system and its effects'. The participants in Elazığ and Van expressed positive opinions about the current incentive system and its effects, but it is difficult for participants in Bolu and Adana to say the same.

The most important reason for this is that the provinces are located in different incentive regions according to the new incentive system. While some provinces took advantages of the incentive system, others had to tackle the disadvantages of the incentive system. A similar situation observed in these cases. While Elazığ and Van benefited positively from the new incentive system, Bolu and Adana had to struggle with the negativities it brought. For example, it was stated that thanks to the 6th Region incentives, the rate of investments in Van increased significantly, and especially large and labour-intensive sectors have started to invest in the city. Similar positive developments have been observed in Elazığ in the last few years. Especially after 2016, with the change in incentive system resulting in the 'transition from 4th Region to 6th Region' within the scope of the "attraction centre" program, large scale and labour-intensive investments increased in Elazığ. The participants who complained about the 'disadvantages of the 4th Region incentives' expressed that with the 'transition from the 4th Region to 6th Region incentive system' positive

developments occurred in terms of investments and the development of industry in Elazığ (see Appendix Table 5.1A).

On the contrary, it was suggested that the incentive system has a very negative effect on the cities of Bolu and Adana. In both cases, it was argued that the current incentive system is unfair, and this situation affects the city negatively in terms of investment and entrepreneurial activities. The most important negativity expressed by the participants was that the cities near Adana and Bolu received more incentives and that the investments expected to come to these two cities preferred neighbouring provinces instead of these cities. The fact that Düzce, which is 50 km away from Bolu, is located in the 4th Region and Osmaniye, which is 100 km away from Adana, is located in the 5th Region, has made these two cities in a disadvantageous position in terms of investments. A participant in Bolu claimed that *"one of the most important problems of Bolu is the incentive system. ... Look, all the provinces around Bolu are the provinces that receive high incentives, but not Bolu. Think about Düzce and Bolu; the distance between these cities is half an hour. Consider the chance of an industrialist here to compete with an industrialist in Düzce. He can't compete."* (B1).

Another critical issue raise regarding 'incentives and supports' is the 'missing or incorrect practices in the current incentive system' (see Appendix Table 5.1B). The participants in Van argued that there are many mistakes in the incentive system. For instance, it is suggested that entrepreneurship and innovation activities will not be increased by giving only money, so the state should create customers for entrepreneurs (V2). In other words, to support innovation activities, the local governments or the state should always support entrepreneurs and buy their products. In addition, the lack of objective evaluation criteria in the process of granting incentives and supports was another important missing and incorrect practice in the current incentive system (V8). Hence, it was implied that the supports and incentives are not given to the right people or projects (see Appendix Table 5.1A).

In addition, the participants in Elazığ claimed that the 'use of incentives outside of their purpose' is a significant problem. Similar to the previous case, the participants in Elazığ suggested that the state support is not sufficient and not used in the right places. Also, entrepreneurs need to spend a lot of time and effort to get support from state institutions. It was asserted that "*getting support from state institutions has become a profession by some people. Some people receive government support and pay their rent, but after one or two years they close their businesses*" (E10). In other words, the projects and works prepared solely to receive state subsidies lead to the use of the state supports outside of their purpose.

The participants in Adana, like those in Elazığ, pointed out both problems related to 'incentives and supports'. The participants stated that the incentive system implemented in Turkey has crucial mistakes or deficiencies. First of all, as mentioned above, due to the inconveniences of Adana resulting from the current incentive systems, it was implied that the current incentive regime provides advantages to some provinces but causes significant losses to other provinces. Therefore, it was emphasized that the total contribution of the incentive system implemented in the country should be reviewed. Second, it was pointed out that it is a mistake that the current incentive system focuses more on the new companies rather than the ones that are currently active. Thus, the incentive system leads people to easy jobs and prevents incentives from reaching the suitable projects and the right people. In this sense, people have "there is support, so let's take it" logic. In other words, people are turning to different goals to benefit from incentives rather than focusing on their real objectives, which in time leads to waste of incentives (see Appendix Table 5.1A).

On the other hand, the existence of the 'poor relationship between incentives and innovation' emerged as a common view shared by participants in four cases. This view arose because participant claimed that (i) the current incentive system supports particularly large-scale and labour-intensive investments, (ii) the R&D and innovation supports are similar for all provinces, (iii) the overwhelming majority of the support provided by KOSGEB goes to the non-innovative or traditional sector

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such as hairdresser, restaurant, café, etc. Also, it was suggested that there are no regional differences in terms of R&D and innovation supports (V10).

However, there are significant perceptual differences between cases regarding the 'habit/culture of using incentives'. Van, Elazığ and Bolu provinces share similar views and approaches, while Adana differentiates from them. Participants in these three provinces argued that the entrepreneurs or individuals in these provinces did not have the habit, knowledge, or culture to use such support adequately. The fact that people do not conduct adequate research on public support and that the public does not guide people in these issues has resulted in less use of R&D and innovation supports in these provinces. A participant asserted that *"the government has support and incentives in many areas. People, entrepreneurs or firms in the East do not benefit from these incentives sufficiently because they have important information deficiencies."* (V9).

Lastly, only participants in Adana and Bolu raised the 'diversity of government subsidies'. It was stated that government supports have increased and diversified considerably in the last few years (B4, A2).

Local actors and social organization

In addition to the rules, regulations, procedures, financial resources and incentives, 'local actors and social organizations' also play a key role in developing entrepreneurship and innovation activities in a region. In this thesis, 'local actors and social organizations' were defined as the last component of the regulatory dimension of institutions. According to the content analysis, with 32% of the frequency of mention, this component of the regulative dimension of institutions was the second most frequently mentioned issue by the participants of the all cases.

Under this content group, 'local actors' approach to innovation activities' was the common and most frequently mentioned issue (17%) by participants in all cases (see Appendix Table 5.1B). Participants in each case expressed both positive and negative views on the role of local actors in regional innovative entrepreneurship

activities. In fact, in all cases, entrepreneurs made more negative evaluations about the role of the local actors in regional innovative entrepreneurial activities, whereas the officials representing the state institutions made more positive statements. This brought to mind whether the representatives of the institution made a bit of corporate chauvinism.

The local actors in Van are not an obstacle to the investments; on the contrary, it is stated that the state attaches great importance to Van and that the public sector plays a leading role in entrepreneurship. In this regard, a significant emphasis was placed on the role of the Governorate of Van. It was also stated that local actors in the city are working towards mobilizing regional capital and changing the city's image (security perception). On the other hand, some of the participants expressed contrary views. For instance, the lack of state investments in Van and the belief that the state did not make investments were among the statements made in the fieldwork. Furthermore, it was suggested that public institutions do not support entrepreneurs. In this regard, negative opinions were reported, especially about Van Metropolitan Municipality (see Appendix Table 5.1A).

However, it was suggested that public institutions play an essential role in Elazığ to support and create entrepreneurship programs. Elazığ Municipality plays a leading role in the development of innovative entrepreneurship (E4). In addition, it was emphasized that a system that provides opportunities for individuals and pioneers and guides them has recently begun to occur (E8). On the contrary, some participants argued that the municipality is not active and did not benefit the industrialists. Similarly, some participants indicated that public actors have zero effects on innovative entrepreneurship activities in Elazığ (E7, E10).

Like the previous ones, positive and negative perceptions were reported about the 'local actors' approach to innovation activities' in Bolu. Some participants (B1, B4, B5, B6) claimed that NGOs, local government and central government support entrepreneurial activities. For instance, *"when you look at the local government, central government institutions and organizations all of them give the necessary*

support, and everyone is trying to make every effort. All institutions are trying to take as much responsibility as they can…" (B3). In contrast, a few participants stated that entrepreneurs and Teknopark are not supported enough and abandoned to its fate (B10, B11).

On the other side, in Adana case, many participants claimed that local actors and professional chambers have mobilized all opportunities to support and develop innovation and entrepreneurship activities. It was implied that local actors, especially in Adana, are supporting entrepreneurship activities altogether. For example, a participant claimed, "*If you have a good idea and you want to realize it, and you are sincere in this business, not only for Adana, wherever you go today, the doors will open to you.*" (A1). On the contrary, some negative expressions existed about the role of local actors and authorities in Adana, such as "*local administrations have egos, central and local governments do not provide the necessary support to entrepreneurs and do not deal with entrepreneurs*" (A10).

According to the content analysis, 'coordination and harmonization between organizations' was the second most frequently mentioned issue (6%) in this content group (see Appendix Table 5.1B). The harmonious functioning of local actors in a region may indicate a suitable ecosystem for entrepreneurship and innovation activities in that region. During the interviews, the relevant discourses were raised in other cases except for Bolu. The content analysis results show that the participants in Van, Elazığ and Adana have similar perceptions and opinions about this issue. In all three cases, the 'coordination and harmonization between organizations' in these cities were quite bad in the past. In Van, for example, it was argued that since the local and central governments have different political views, there was severe discrepancies and disagreements between these institutions in the past. However, it was implied that with the recent dissolution of the old municipal administration and the control of the trustees appointed by the central government, the existing conflicts have disappeared (V7). In fact, it was suggested that there is a harmony that has never been seen before in this city (V6) (see Appendix Table 5.1A).

Figure 5.1. Representation of words expressed by the participants in all cases related to the regulatory dimension according to the frequency of discourse.

Similarly, in Elazığ, there was no public-university-industry cooperation in the past, but the coordination and harmonization between institutions gradually improved. In this regard, it was claimed that "*the Public-University-Industry Cooperation (PUIC) has never been so far. Oh, now we are taking good steps. Beyond the political dimension, this cooperation is needed for the development of this city. The city has a good atmosphere now*" *(E1)*. Likewise, in Adana, it was claimed that there was no coordination and harmony between NGOs in the past and that they were in competition. But, the coordination and harmony have begun to occur between the NGOs and the central and local actors especially in the last 3 or 4 years (A5).

In addition, the results allow us to reveal some differences between the cases in terms of 'local actors and social organizations'. Accordingly, while the 'existence of strong professional chamber' was emphasized in Elazığ, the 'existence of weak professional chamber' was highlighted in Bolu. Also. a difference was found between Bolu and Adana in terms of the municipality's role in the formation and development of regional entrepreneurship activities. While the 'existence of active local

government' was noted in Bolu, the opposite, the 'existence of passive local government' was noted in Adana.

Unlike all other cases, the participant in Adana raised the 'adverse effects of political wrangling'. In Adana, this issue was the most frequently mentioned issue within the 'local actors and social organizations' content group. In terms of political wrangling, participants expressed that Adana has suffered significant losses in terms of investments and general municipality services in the last 20 years, since the local government (Nationalist Movement Party (MHP) or Republican People's Party (CHP)) and the central government (Justice and Development Party (AKP)) are from different political parties (A2, A5). Moreover, it was claimed that due to political conflicts, Adana does not receive support as much as other provinces such as Konya, Kayseri and Gaziantep (A6).

Lastly, the participants in Van and Adana highlighted the 'institutionalization problems at the country level'. Regarding this issue, the participants in Van stated that there are important problems, such that there are individuals who prefer to be a party man rather than a statesman. Similarly, the participants in Adana indicated limited information sharing within or between institutions at the country level.

5.2.2 Theme II: Normative institutions that support or prevent the formation of innovation and entrepreneurial activities.

The normative dimension of institutions is a broad concept that can involve quite different subjects, such as culture, belief, values, norms, tradition, life style and expectation differ significantly among societies (Fernández, 2008), thus is possible to define the normative institutions specific to each region. In other words, the normative dimension consists of rules that regulate and determine the behaviours and interactions of individuals in society on an informal level. Based on this definition, it is assumed that culture, norms, beliefs, preference, and tradition, which describe the rules implemented by human beings over a long period, might influence the

decisions and preferences of individuals to start a new business or an innovation activity.

The ultimate aim of this section is to explore the impact of the normative dimension of institutions on the formation and development of innovative (or innovation-oriented) entrepreneurship activities across four different cases. In the field work, the participants were first asked to describe their provinces' level of innovative entrepreneurship and then explain the role of the normative dimension of institutions (culture, norms, values, beliefs and expectations) in the formation of this level. Especially in the three provinces where the level of innovativeness is low, such as Van, Elazığ and Bolu, the participants talked more about the normative institutional factors that prevent the formation of innovation activities, whereas in Adana, where the level of innovation is relatively high, the participants mentioned more about the normative institutions supporting the formation of innovation activities.

As noted above, the impact of this dimension of institutions on innovative entrepreneurial activities varies considerably across the cases, as each case has its own normative institutional setting. For this reason, each case will be examined separately in this section. As described in the 'General Findings' section this theme has three sub-themes: *"A social structure with culture, values, beliefs and norms that suppresses or pushes the formation of innovative thinking", "Demographic, social and economic constraints and opportunities"* and *"Regional/political location".* The first sub-theme focuses directly on the impacts of the perceived attributes of the normative dimension of institutions, while the second sub-theme focuses on demographic and socio-economic opportunities and barriers, and the last sub-theme focuses on the advantage and disadvantages of the regional and political location. First of all, it is worth mentioning that these themes that covered all cases were defined to overcome future confusion. However, since we will deal with each case separately, each of these sub-themes will be reformulated for each case according to the findings of the cases.

Case I: Van

In this subsection, we will explore how the normative dimensions of institutions influence innovative entrepreneurial activities in Van. Based on three sub-themes, this subsection will consist of three different sections.

A social structure with culture, values, beliefs and norms (tribalism, micro-nationalism, strong family ties, social pressure, conservative and weak production knowledge and culture) that suppresses the formation of innovative thinking.

According to the inductive qualitative content analysis results, 11 perceptual attributes of the normative dimension of institutions that affect the level of innovative activities were identified for Van. These perceptual attributes were gathered under the 'collective perceptions and values' content group, which was the most frequently mentioned content group with a frequency value of 50% below Theme II (see Appendix Table 5.2B). Having such a high frequency of mention demonstrates the importance of culture, values, norms, beliefs, lifestyles, expectations and associations in determining the level of regional innovative entrepreneurial activity.

In this sense, 'tribalism and micro-nationalism' were identified as one of the most critical preventing factors of innovation and entrepreneurial activities. The participants argued that widespread tribalism and micro-nationalism in the social structure and the discrimination arising from there had a considerable effect on the economic behaviour of individuals. Due to tribalism and micro-nationalism, the participants said that relations based on 'friend-dude' relation can be observed quite widely. While individuals in the same tribe support each other, they do not want individuals in the other tribes to develop and come to an important position, which ultimately hinders the city's development in terms of innovation and entrepreneurial activities. A participant reported that *"when you meet someone here, the first question you asked: which tribe are you from? What's the point of asking this question? If you belong to a tribe that he doesn't like, he might say no work should be done with them. He immediately puts an obstacle in front of himself. Even if the man holds a bird with his mouth, he will say that this guy is from that tribe; his*

relatives are like this, so no work is done with them. This logical approach is very effective in this region." (V1).

Figure 5.2. Representation of words expressed by the participants in Van related to the normative dimension oaccording to the frequency of discourse.

Regarding this issue, Dobler (2011) argues that within the group, for example, in family, clan, tribal, religious or ethnic groups, high trust and cooperation are manifested widely, while distrust prevails beyond groups. For this reason, in a society having hierarchical order, individuals belong to different tribes or families suffer from limited cooperation and economic relations due to high transaction costs. However, almost all of the participants argued that tribalism is diminishing and that the hierarchical or feudal order is weakened compared to the past in the city. *"As the ties of tribalism weaken, I think that entrepreneurship is gradually increasing in this region because the heterogeneity of the demographic structure is increasing." (V7).*

Likewise, 'political and ideological discrimination' represents one of the distinguishing features of culture in the region. It was stated that the political and ideological thinking in the province plays an active role in shaping individual behaviours, which in turn shapes the social and economic life taking place in the city.

However, it was claimed that ideological discrimination can sometimes have a detrimental effect on economic and social life (see Appendix Table 5.2A).

Parallel to this, 'envy and jealousy', possibly arose due to the above reasons, was defined as a preventive social factor of innovative entrepreneurial activity. Because of jealousy and envy, individuals or entrepreneurs in Van do not want other individuals or entrepreneurs to develop themselves or be superior to them economically or socially. It was emphasized that the understanding of "*If I cannot do it, then they should not be able to do it*" (ben yapamıyosam, onlar da yapamasın) is common among individuals (V6). He also argued that "*unfortunately we have envy in family structures. They are always trying to pull you back in business or community.*" In other words, *"they do not want anyone to be too good or too bad"* (ne olsun, ne ölsün) (V2). Therefore, the participants suggested that the culture of acting together is quite week in the city and that everyone has the *"desire to be head (selfishness)"* (herkes baş olmak istiyor) (see Appendix Table 5.2A).

On the other hand, 'weak production/trade/work culture' was highlighted as another important social feature that prevents individuals from starting an innovative activity. One participant described the people in Van as *"a human profile that does not know how to produce and make money"* (V5). The participants claimed that there was no commercial ethics and culture of production in Van. In this regard, one participant mentioned the codes created in human beings that is caused by severe winter conditions. It was expressed that an understanding *"we cannot produce anything in such a harsh winter condition"* is common in humans (V1). The participants argued that the prolonged winter season and the predominance of rural life prevented commercial, production and modern working culture in the region, resulting in low levels of innovation and entrepreneurship activity in the city.

In this regard, the dominance of the 'rurality' was shown as one reason for the low level of innovation activities in Van. The participants argued that the 'low level of manners and culture' associated with the 'rurality' also contributed to the low level of innovative entrepreneurial activities in the city. It was thought that since a large

part of the society is still living in rural areas and engaged in agriculture and animal husbandry, the environment, knowledge and capital required for innovation activities cannot be formed. For example, a participant claimed that *"no matter how rich or how much money he earns, it is very difficult for someone who has spent all his life in animal husbandry and has such a lifestyle from childhood to be innovative."* (V5). In other words, the participants pointed out the lack of sedimented knowledge necessary for the development of innovation activities in this province.

Further, the participants described 'strong family ties and social pressure' as a crucial symbol of the socio-cultural life of the city, which adversely affect innovation and entrepreneurship activities. It was emphasized that strong family ties and social pressure prevented individual movement in society and caused individuals to hesitate to clearly express their 'creative' ideas. The family or community is breaking the enthusiasm of those who want to do something new. For instance, it was said that *"individualistic thought in this region is very limited"* V7). Many scholars found that high individualism and low power distance positively affect innovation activities (Stephan and Uhlaner, 2010; Liñán et al., 2011).

Like family and social pressure, 'conventionalism' was defined as another essential feature of the social structure in Van. The participants saw over-adherence to tradition as one of the major obstacles to developing innovative entrepreneurial activities. The participants argued that because of the excessive commitment to tradition, there was a resistance to innovation and that society was unable to overcome the stereotypical mentality. It was also claimed that the region's people approached the traditions in the form of a religious belief. Therefore, the existence of a closed society model was mentioned in this region, and it was strongly emphasized that this mentality should change (See Appendix Table 5.2A).

Finally, 'laziness' was voiced by the participants as an important feature of the society in Van. The participants stressed that there is laziness in the region's people, which prevents individuals from starting a new business or innovation activity. One participant complained that there are too many environments in the city to direct

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individuals to laziness (V1), while another claimed that there was a high tendency to escape rules in society due to laziness (V5) (See Appendix Table 5.2A).

Nevertheless, it was claimed that the recent knowledge, lifestyle, and culture transfer provided with migration contribute positively to 'social change', which positively affects the formation and development of innovative entrepreneurial activities in the city. In other words, with the increase in the number of trips to and from the western provinces, the production culture, lifestyle or vision acquired by the local people from the western culture (cities) have recently led to the change of social life in a positive sense. For example, it was claimed that with the weakening of tribalism in the region and increasing transportation and communication technology, heterogeneity in the city has begun to increase and the pressure on girls has started to decline.

Demographic, social and economic constraints and opportunities.

Since it is closely related to the above-perceived attributes of the normative dimension of institutions, the 'demographic, social and economic constraints and opportunities' is defined as a sub-theme of Theme II. As a result of the inductive qualitative content analysis, this theme consists of three content groups: 'demographic structure', 'urbanization and urban life' and 'economic activities'.

The entrepreneurship literature suggests that the likelihood to perceive opportunities in the market is highly associated with the education levels of individuals because individuals with high levels of education have a broader knowledge and, therefore, the possibility of transforming this information into potential entrepreneurial opportunities (Khobdeh, 2017). However, 'low level of education' and 'limited human resources and unemployment' were defined as the primary demographic problems of the city that hinder the formation and development of innovation and entrepreneurship activity. The weaknesses that participants stressed most about the demographic structure are the lack of qualified personals, positive migration and receiving negative migration, increasing unemployment, and a very low education level.

On the other hand, concerning 'urbanization and urban life', the participants referred to the 'urbanization and urban life problems' and 'improvement of urban infrastructure and equipment'. In this sense, it was emphasized that the challenges of being a metropolitan city are being fought in Van, which was declared as a metropolitan municipality in 2012. A participant claimed that Van is at the very beginning of the road in being a metropolitan municipality (V5). Migration from rural to urban areas and the inability of the society to adapt to urban life were reported to cause unplanned growth and misuse of the city (See Appendix Table 5.2A).

Besides, 'border trade', 'agriculture and livestock', 'tourism and construction' and 'existence of informal and illegal economic activities' were described as critical economic activities that play a key role in the development of the region. The participants argued that due to the predominance of the rural population, 'agriculture and livestock' are among the essential livelihoods of the population. In this respect, Van is a city with the highest number of small cattle in the country. It was also emphasized that the city has attracted a large number of Iranian tourists in recent years. Being on the Iranian border and with its natural and historical sites, Van is one of the cities that Iranian tourists visit the most.

On the other side, 'border trade' and 'existence of informal and illegal economic activities' constitute another side of the city's economic structure. Regarding this, the participants claimed that the most important economic activity in the province is in fact smuggling and drug trafficking. High risk, a lot of money, and a respectable place in society were defined as these economic activities' general characteristics. The existence and prevalence of such illegal economic activities inevitably shape individuals' economic and social behaviour, such as trigger individuals' desire to earn easy money, which naturally prevents them from engaging in formal innovative entrepreneurial activities.

Unpredictable and unreachable regional/political location.

In terms of 'regional/political location', the participants strongly suggested that Van is in a pretty disadvantaged position (see Appendix Table 5.2B).

In this context, the participants noted a serious 'security issue' in the city due to the ongoing armed conflict between the Turkish Armed Forces and the PKK (Kurdistan Workers' Party). Almost all of the participants pointed out that the ongoing armed clashes and security concerns in the region harm the economic and social life of the region, which in turn negatively affect the formation and development of innovative entrepreneurial activities. They also underlined that the ongoing conflicts cause serious uncertainties about the future of the city. Thus, due to the 'unpredictable future' of the region, many investments are hesitant to come to the city. Therefore, the city's current entrepreneurship and innovation activities have been relatively low (See Appendix Table 5.2A).

The participants explained the lower level of regional innovation and entrepreneurship activities and investments in the city through the 'high transportation costs' and 'distance to raw materials and market'. According to the participants, being far away from the sea and ports and lack of uninterrupted rail transportation causes transportation costs in the city to be quite high, discouraging investors from investing here. In addition, the city's distance from essential trade centres and the difficulties in accessing raw materials have been cited as important factors that cut future investments towards the region.

Furthermore, 'geographical obstacles' was expressed as another factor that increases the investment costs in the city. The participants claimed that the region is not attractive to investors because of the mountainous and harsh climatic conditions. For instance, "*most factories in the manufacturing sector in Van do not work in the winter ... so they cannot produce in the cold ...*" (V10). It was also emphasized that geographical barriers create coding in the mind of the local people, such as *"the fate of the East"* (Doğu'nun kaderi) is widely used by the local people (V5). That is to say, the disadvantages mentioned above have adverse effects on regional innovative entrepreneurial activities.

Besides, 'the lack of strong political figures' was expressed as another critical disadvantage of the city. One participant argued that *"Van does not have an owner"*

(Van sahipsizdir) (V8). In other words, it was implied that there are not enough political figures to encourage investments in Van. People living in Van or other provinces expect the elected deputies or ministers to contribute to their cities. In this country, in particular, some politicians have made significant socio-economic contributions to their cities with their active role. For instance, President Turgut Özal played a crucial role in the development of Malatya.

Accordingly, it was underlined that the city has a 'low competitiveness'. One participant stated that *"our producer's competitiveness is inevitably lower than that of western enterprises, whether it is due to the difficulties in supplying raw materials or the harsh climatic conditions, or the terrorist incidents that took place in previous years."* (V1).

On the other hand, it was argued that the city has significant advantages as it has 'rich underground and surface resources' and 'a strong position in the East'. Some participants claimed that the city is located in an area with significant underground resources (V1, V5). For example, Van has approximately 55% of the pumice reserve in the country. In addition, since it is one of the most developed provinces of the Eastern Anatolia Region, it is an attraction centre for the surrounding provinces.

Case II: Elazığ

Three themes were defined for Elazığ, as created for Van. While the first theme consists of collective perceptions and values, the second theme derives from demographic and socio-economic constraints and opportunities, and the last theme derives from perceived attributes related to the regional/political location of the city (see Appendix Table 5.3B).

A social structure with culture, values, beliefs and norms (conservative, repressive, religious, passive and non-innovative) that suppresses the formation of innovative thinking.

According to the findings, 11 perceptual attributes forming the 'collective perceptions and values' content group were identified for Elazığ, as shown in

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Appendix Table 5.3B. The inductive content analysis results suggested that 'conservatism or being conservative' was the most emphasized perceptual attributes regarding the social structure of Elazığ that limits the formation and development of innovative entrepreneurship activity. It was strongly highlighted that people of Elazığ are nationalist, conservative and overly dependent on traditions and customs and that has a negative impact on the formation of innovative activities within the society. The participants also underlined that it is possible to find some forms of behaviour compatible with strict traditionalism and bigotry in Elazığ. For instance, a participant reported that *"people living in Elazığ are conservative, so we are not open to innovation in this context. Culturally, I think this affects our ability to not be innovative."* (E4).

Along with the conservatism, many participants suggested that 'religiousness' is another crucial characteristic of Elazığ people. In this respect, a participant argued that *"Elazığ is a religious place. For example, in the computer engineering department it is difficult to find 2 girls, if there are 30 boys, there are only two girls."* (E10). It was also stated that a fatalistic approach is common among individuals in Elazığ. Since a fatalistic approach is widespread, individuals do not have enough aspiration and excitement to make innovation or to start a new business (E8). Similarly, research shows that religion undoubtedly affects entrepreneurial culture and activity because it influences individuals' behaviour, values, and beliefs (de Noble et al., 2007; Dana, 2009). Dobler (2011) suggests that religious doctrines or other metaphysical beliefs may preclude people from scientific research and technological progress, although they receive the full returns from innovation activities. She also claimed that people could spend much time and energy on religious and other metaphysical activities that there are not enough resources for innovation or entrepreneurship. According to Weber (2002), in societies where God's goodwill does not tolerate materialism, people lack high motivation to work hard and invest. That's why beliefs, codes of conduct and attitudes arising from such a religious structure affect the development of economies.

On the other hand, since the first years of the Republic, Elazığ has hosted essential State Economic Enterprises (SEEs) and the regional directorates of state institutions. For this reason, the participants in Elazığ stated that due to the prevalence of the state institutions and enterprises, most of the people are employed as workers or civil servants in these organizations. Thus, this situation has developed a culture and mentality in people over time. In other words, it was argued that the working culture and mentality of the people of Elazığ in the state-affiliated institutions have developed strongly and therefore, the tendency of the people to be entrepreneurs or to make innovation is weak. Also, the participants argued that the disposition of the people 'to rely on the state' is quite high. A participant noted that *"Elazığ has behaviour from the past: let my son grows up, my daughter grows up, he/she will become a civil servant or a worker in state-owned enterprises (SEEs). I mean, this has a really very negative effect on the development of our entrepreneurial culture."* (E1). It was also emphasized that people are making more efforts to become workers or civil servants in state institutions instead of starting their businesses (E7).

Figure 5.3. Representation of words expressed by the participants in Elazığ related to the normative dimension of institutions according to the frequency of discourse.

Concerning this, the participants described 'passivity' as another social feature preventing the innovativeness of Elazığ people. It was claimed that the people in Elazığ do not start a new job by taking the initiative; instead, they expect everything from the state. Besides, society expects that there will always be someone who leads them. Similarly, one participant claimed that individuals in Elazığ do not complain much about their situations and, at the same time, do not try to get more (E8). In other words, the people of the region were claimed to be contented.

However, like Van, 'strong family ties and social pressure' was seen as a critical social factor preventing the development of innovative entrepreneurship activities in Elazığ. The participants claimed that the individual action is limited, but the effect of the parents on their children is relatively high. Similarly, it was emphasized that the social environment effectively shapes individual decisions and behavioural patterns. In this respect, it was clearly emphasized that family and social environment pressure suppresses innovative ideas and individual creativity in the city (See Appendix Table 5.3A). In contrast, innovation and entrepreneurship activities are better adapted to societies where there is a climate of free choice and social progress, enabling self-expression, creativity and the full development of the individual (Inglehart and Welzel, 2005). Research shows that entrepreneurs need more success, independence and autonomy (Kirby 2004). In fact, the desire for independence can be both the cause and the result of entrepreneurship activity (Alvarez and Urbano, 2012). Similarly, several empirical studies indicated that innovative entrepreneurial activities are more prevalent in cultures represented by lower power distance and higher individuality (Shane, 1993; Mueller and Thomas, 2001; Liñán and Fernandez-Serrano, 2014).

Consistent with these arguments, the participants declared that people in Elazığ are 'distant to innovation' and there is 'a resistance to diversity and a lack of tolerance' among the community. It was argued that the limited interaction with the outside world and the lack of culture of innovation make people distant from the "new". Likewise, it was claimed that the people here have resisted different ideas and thoughts, and they are not tolerant against differences. One participant pointed out

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the most crucial reason for this as the low intellectual capacity of the city and the ignorance of the accumulative and intellectual individuals (See Appendix Table 5.3A). However, Florida (2002) suggests that the creative is not equally distributed across space: each region or city has a different level of the creative class. Instead, he claimed that creative class is concentrated in places characterized by, among other things, an urban climate of tolerance that is open to new ideas and newcomers. Florida argues that creative people are interested in tolerant and open-minded regional communities that offer a diverse population of different cultural and ethnic backgrounds because creative people believe that a tolerant environment inspires the creation of creative ideas and innovations.

The results also showed 'selfishness' as another obstacle for society to be innovative and entrepreneurial. It was claimed that the dominance of jealousy and selfish thinking within society prevent cooperation among individuals and the dissemination of innovative knowledge. One participant pointed out that instead of putting things together, everyone has an expectation for himself/herself (E8).

Moreover, it was argued that having 'limited local facilities' may lead to less development of social life in Elazığ, resulting in a low level of innovation and entrepreneurial activities in the province. Interestingly, a participant argued that *"if we look at why the people of Elazığ do not carry out innovation activities in their provinces, the underdevelopment of social life may have played an effective role in this. I can say that the lack of social facilities in this city has caused a brain drain"* (E1). Therefore, the 'management skill' was highlighted as a positive feature of the society. A participant stated that Elazığ people have leadership and management abilities (E2). However, it was emphasized that the people of Elazığ, especially those living outside the city, have significant successes in business life (E8).

Unlike other factors, some participants pointed out that Elazığ 'had a cultural diversity in the past'. As shown in Table 5.3, there were many people from different races, religions and cultures before the Republic in Elazığ. Unfortunately, after the establishment of the Republic, this structure in Elazığ was almost completely

changed and turned into a predominantly Muslim and Sunni population. However, it is possible to say that cultural diversity exists in Elazığ today because many Kurds and Alevi live together with Sunni Turks in Elazığ. In this context, it was believed that the presence of brave and helpful people from different religions, races and cultures could contribute to the development of regional entrepreneurial activities (E1).

Table 5.3 Elazığ Population According to the 1897 Ottoman Census

Muslim		Greek		Armenian		Catholic-Protestant		Latin		Syrian	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
198.405	181.687	479	479	38.062	36.142	1.172	1.218	310	297	761	745

Source: Karpat, 2010[18]

Demographic, social and economic constraints and opportunities.

In terms of 'demographic structure', participants declared that having a 'high level of education' is an essential advantage for the city, but 'giving positive migration, receiving negative migration' is a significant disadvantage. In other words, the presence of many educated people in Elazığ was found as a factor triggering regional innovation activities; on the other hand, the migration of well-educated persons was seen as a factor weakening of innovation and entrepreneurship activities. A participant claimed that *"one of our biggest problems, let's not miss it, we are giving a serious brain drain. This is a fact, and unfortunately, we receive unqualified migration from the East including Tunceli, Muş and Bingöl due to the terror incidents."* (E1). In this respect, some participant highlighted that due to the 'limited urban life' qualified and intellectual individuals have left the city (E4, E6) (See

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[18] KARPAT, Kemal; *Osmanlı Nüfusu(1830-1914),* Çev. Bahar Tırnakçı, Timaş yayınları, İstanbul 2010.

Appendix Table 5.3A). In addition, 'limited job opportunities and a constant population' were expressed as an important problem of Elazığ.

Regarding 'economic activities', the participants pointed out the 'presence of advanced service and construction sector' in Elazığ. It was also underlined that 'the industrial sector' in the city has still developed, yet the need for intermediate staff still continues. Besides, the participants added that Elazığ is a vital trade centre for the surrounding provinces (See Appendix Table 5.3A)

Having an advantageous regional/political location.

Compared to the previous case, Van, it was determined that Elazığ has more advantages in 'regional/political location'. In this respect, the fact that the city is accessible and has a strong educational infrastructure is quite essential for the development of regional innovation and entrepreneurship activities. Referring to the physical location of the province, the participants stated that Elazığ is physically located at the centre of the TRB1 Region (E1, E2). In addition, the existence of a logistic centre and railway transportation in the city can provide significant advantages for entrepreneurs in terms of transportation costs. On the other hand, having one of the best universities in the region was a subject frequently mentioned by the participants. In particular, the Faculty of Engineering was claimed to be one of the best engineering faculties in the country. Therefore, it was highlighted that significant innovation activities have begun recently in the region (See Appendix Table 5.3A).

Besides, being a safer place than the surrounding provinces is one of the most critical regional/political advantages of Elazığ. Due to the ongoing terror incident in the surrounding provinces such as in Tunceli, Muş, and Bingöl, the city was defined as a 'buffer zone' or a 'trust island' for the surrounding provinces (E1). Because of this feature, Elazığ has been an important centre of attraction for the surrounding provinces and thus has received immigration intensively from these provinces as explained above. On the other hand, it was implied that this situation increases the

diversity in the city, which is crucial for the creation of innovative entrepreneurship activities.

Furthermore, Elazığ has a 'rich underground and surface resources'. Yet, the participants claimed that although there are essential mineral deposits in and around Elazığ, these resources are not appropriately used and converted into added value (E7, E8). The sale of resources mostly as raw materials without being converted to end products were seen as a significant loss for the regional economy.

However, as in Van, the 'distance to the market and raw materials' was defined as one of the reasons for the low level of entrepreneurship and innovation activities. In particular, the distance of raw materials and markets required for innovative and high-tech sectors were found as a reason for the failure of regional innovation activity (E4).

Lastly, in terms of political position, 'having strong political actors in the past' was found an important factor for the city's socio-economic development. On the other hand, the fact that the city does not have an important political actor today is seen as an essential loss for the regional political position. In particular, comparing with Malatya, participants claimed that Elazığ lost the advantage to Malatya for this reason (See Appendix Table 5.3A).

Case III: Bolu

Similar to the previous two cases, three sub-themes were also described for Bolu. However, unlike other cases, the first sub-themes have a quite high frequency of mention. This gives clues that the existing culture, norms, beliefs and values in the region might be more effective than other socio-economic or political factors in explaining the formation of innovation activities (see Appendix Table 5.4B).

A social structure with culture, values, beliefs and norms (fear of failure, saving culture, austerity, introverted/closed society, and non-innovative) that suppresses the formation of innovative thinking.

In contrast to the previous two cases, according to inductive qualitative content analysis results, two different content groups emerged under this sub-theme in Bolu. While the first content group is the same as in the other cases, the 'collective perceptions and values', the second contact group, 'economic situation of society', is defined only for Bolu. The 'collective perceptions and values' content group consists of 15 perceptual attributes, while the 'economic situation of society' content group includes three codes (see Appendix Table 5.4B).

The findings suggested that 'weak production/trade/work culture', as in Van, is an essential socio-cultural attribute that prevents the formation and development of innovative entrepreneurship activities. The participants emphasized that the people of Bolu have recently started to trade, production and industry, so that a strong culture of trade and production has not yet developed (B3, B4, B6). The participants attributed the low level of trade and production culture to historical events and economic developments in Bolu. In this sense, they argued that the fact that the Silk and Spice roads did not pass through the province was quite effective in the emergence of the current situation in Bolu. To prove this, the participants gave examples of Bolu and Gerede, a district of Bolu. In this regard, it was claimed that because of these trade routes passed from Gerede, the people of Gerede are highly prone to trade and production, but the people in Bolu are more oriented towards agriculture and animal husbandry. The leather industry in Gerede was cited as an example, which is known to have gone back 900 years (B6). The participants also stated that the characters, attitudes, and behaviours of Bolu people are not suitable for work and research in industry (B4) (See Appendix Table 5.4A).

Another reason behind the low level of innovativeness and weak production and trade culture in Bolu was defined as 'rurality'. The majority of the participants stated that the people of Bolu still have a strong connection with rural life and therefore,

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the rural culture is somewhat dominant in the region. It was emphasized that there are many villages in Bolu and that although the majority of people live in the city, they have a second house in the villages (B1). These results and observations in the field show that there is still an agrarian society in Bolu. Concerning these, the participants claimed that community is 'distant to innovation'. They also stated that because the production and working culture of the province is weak, there is no reason for people to think 'big' (B4). Therefore, the level of innovation is low in Bolu. Some participant even claimed that the concept of innovation did not fit here because of the sociological structure of Bolu (B10, B11) (See Appendix Table 5.4A).

On the other hand, it was emphasized that the society in Bolu is quite 'introversion and closed'. One participant made a description for Bolu –a ghetto built with green forests (B11). In other words, it was expressed that Bolu is a city that tightly closed itself between the two metropolises, such as Ankara and İstanbul. In addition, it was stated that social activities are very limited in Bolu, and the people of the region do not have much connection with the outside of Bolu (B4). Since the culture of living in society was limited in individuals, they were introverted or closed. Parallel to these, some participants defined the people of Bolu as 'oppressive and exclusive' (See Appendix Table 5.4A). In contrast, previous researchers suggested that innovative ideas and entrepreneurial activities can flourish in areas where tolerance to diversity, including various cultures, races, religions, and lifestyles, is high (Florida, 2002; Turok, 2004). Besides, recent empirical studies provide evidence on the positive contribution of cultural diversity on innovative start-ups and proactive and opportunity-driven entrepreneurship (Audretsch et al., 2010; Alvarez and Urbano, 2012; Pathak and Muralidharan, 2016).

However, the participants argued that being 'a society subjected to oppression and violence' is an essential reason for introversion and closed society. It was claimed that the people of Bolu were subjected to oppression and cruelty many times in history, and therefore, an introverted and intimidated society was formed (B9, B11). As stated above, as a result of the oppression and cruelty, society experienced difficulties and poverty in the past. This situation, in fact, provides a lot of clarity

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about the social structure of Bolu. In other words, historical accumulation/memory seems to have played an important role in establishing some characteristic features in Bolu society. The difficulties experienced in the past, as explained above, were transferred from generation to generation and contributed to the formation of this socio-cultural structure (See Appendix Table 5.4A). As emphasized in the literature, Bolu example has been important evidence that the codes created by some events in history have continued to affect society for a long time. Related to this issue, several research suggests that history plays a critical role in the emergence and development of institutions (North, 2005).

The participants also declared that while oppression and persecution have led to the society to be closed and introversion, on the one hand, it has caused the 'change of moral structure' of the society in Bolu. In other words, a participant suggested that the people of Bolu have moved away from spirituality and turned to alcohol (B9). He also suggested that there has been a spiritual collapse in the province, especially in recent years, and society has given itself to alcohol. However, according to TURKSTAT 2018 Household Consumption Expenditure Regional Results data, the TR42 region, including Bolu, is the 6th region among the 26 NUTS-2 level regions with a consumption rate of 3.9%, spending the least amount of money on alcoholic beverages, cigarettes and tobacco.

'Commitment to the state' is another highlighted feature regarding the people of Bolu. In connection with the above expressions, the participants stressed that the people of Bolu are afraid of the state and therefore do not make any noise or complaints against any of the practices of the state (B1, B11). Also, one participant claimed that the people of Bolu have been 'loyal to the Ottoman Empire' since the past (B9). It was claimed that they were punished many times in the last periods of the Ottoman Empire and the Republic's first years because of this commitment.

In fact, as a result of the suppression and intimidation policy or measure mentioned above, it was implied that the people of the region have gone into a quite passive mode. According to the participants' discourses in Bolu, it is depicted that the people

of the region are willing to accept their fate and thus, have no motivation or excitement such as doing something new or starting a new job (B9) (See Appendix Table 5.4A).

According to the results, 'fear of failure' is another significant social feature that adversely affects innovative entrepreneurship activities in Bolu. In other words, fear of failure was described as a norm preventing people from starting a new business. It was claimed that the people in Bolu are more afraid of attempting to trade, making unsuitable investments and losing money (B1). It was emphasized that although people have enough resources for making new investments, they avoid investing because of fear of making mistakes. The participants claimed that fathers are reluctant to vouch for their children. In this sense, the people of Bolu are rather anxious, shy and avoided risk.

Regarding this, the participants expressed that society is quite 'frugal' and that the 'saving culture' is widespread in the province. The participants emphasized that a saving culture is created in the region's people due to the poverty experienced in the past. Many people have acted with the approach *let me hide my money, not eat, not drink, it is not clear what will happen in the future"* (B9). It was also expressed that the region's people do not like to live in luxury because of the widespread fear that we would experience poverty again (B4). For instance, the understanding of *"get less, get better"* (az olsun, öz olsun) is rather dominant in the city (B1).

Besides, it was suggested that a high level of fear of failure among individuals results in the 'prevalence of habit of earning money from interest'. For this reason, the culture of evaluating investments in the bank rather than in entrepreneurship is widespread in Bolu. The participants claimed that due to risk aversion and fear of failure, depositing money in banks outweighs. Thus, banks are more attractive to individuals than innovative activities. One participant even argued that interest culture has become a tradition in this province (B9).

However, some participants highlighted certain social features that may support innovative entrepreneurial activities in Bolu. For instance, in contrast to Elazığ, the

existence of a 'non-conservative society' was pointed out in Bolu. It was claimed that the conservative people in Bolu was opposed to innovation in the past, but today they are open to innovation. It was also emphasized that the people of Bolu are not bigoted and conservative and that the Bolu indigenous does not have a much-closed perspective on innovations. In addition, a participant stated that Bolu is not very conservative in religious terms and that innovations are upheld (See Appendix Table 5.4A).

Figure 5.4. Representation of words expressed by the participants in Bolu related to the normative dimension according to the frequency of discourse.

Similarly, 'urbanization and increase in manners' was emphasized as the characteristic that may direct the society to innovations and entrepreneurial activities. Firstly, it was emphasized that the manners in society increased with the beginning of the girls' work (B1). Since most of the girls came from the villages, it was claimed that those who came from the village began to acquire a culture of living in society. Secondly, it was argued that increasing urban life together with the university has positively changed the social structure in Bolu. For instance, a

participant suggested that "*I don't want to be unfair about this, I know about 35 years of Bolu, but you can appreciate that after the university was founded in Bolu, Bolu's life or cultural structure has changed.*" (B4). It was emphasized that the city, which has a more rural lifestyle, has started to urbanize with the university. Lastly, it was indicated that as the youth went to other provinces to study school, the closed community structure in the province started to be broken (B11). In other words, it was implied that young people contributed to the breaking of the rural lifestyle in the city by transferring the manners and cultural rules they had acquired in the big cities to Bolu.

Moreover, the participants in Bolu argued that the low level of innovative entrepreneurial activities in the city is strongly related to the 'economic situation of society'. In this regard, many participants pointed to the existence of a 'wealthy society' in Bolu. It was highlighted that the people of Bolu are quite rich, and most of them work in factories or elsewhere only to have social security. It was claimed that local people are mostly land-rich and have a significant income from agriculture. Besides, the participants argued that most people in Bolu have a close relationship with the villages and generate substantial income mainly from poultry and potato production. Since Bolu is a city that alone accounts for 35% of the total chicken production in the country, most people in Bolu were reported to earn money from poultry farming. Also, being 'a fertile place' is another factor that enables people of the city to get income easily with agriculture and animal husbandry (See Appendix Table 5.4A).

Demographic, social and economic constraints and opportunities.

The inductive qualitative content analysis demonstrated that Bolu has more disadvantages in terms of 'demographic structure'. In this regard, the city has 'the problem of employment of qualified staff'. As in Van and Elazığ, Bolu gives a significant amount of brain drain due to the limited opportunities for employment of qualified personnel, which is highly important for innovation activities. A participant stated that due to the sudden increase in the number of universities and high schools,

the number of university graduates has increased with each passing day and that there are not enough job opportunities to meet this increase in the city (B2) (See Appendix Table 5.4A).

The 'presence of small and slowly growing population' was introduced as another problem that restricts the development of entrepreneurship and innovation activities in the city in demographic terms. As stated in the previous sections, the population of Bolu is growing well below the national average. A participant emphasized that the urban population has remained the same for years because of ineffective population planning in the city (B2). Further, the participants claimed that Bolu has received very little migration compared to other cities, which led to the formation of a 'homogeneous society' structure. In the entrepreneurship literature, it is strongly highlighted that similar ideas will emerge in a homogenous society, so innovation and entrepreneurship activities might be more common in regions where diversity is high (Florida, 2002; Qian, 2012). In this context, the existence of a homogeneous community structure in Bolu can be defined as a problem that restricts the formation of innovative entrepreneurship activities.

On the other hand, participants argued that 'agriculture and livestock', 'the industry sector' and 'tourism and university' are the main 'economic activities' in Bolu. As cited above, agriculture and animal husbandry are the most important source of livelihood for the people in Bolu. In addition, the participants argued that the presence of the industrial sector in the city is seen as an essential source of livelihood for the city's people. The participants also reported that having a university and important natural tourist places in the city are quite important for the economy of the city.

Having an advantageous and disadvantageous regional/political location.

Unlike the other two cases, the participants in Bolu have less cited the issues regarding 'regional/political location' (see Appendix Table 5.4B). In this content group, only two perceptual attributes were defined, such as 'transportation problem and 'being close to the Marmara Region'. While the 'transportation problem' was

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defined as a major disadvantage for Bolu, 'being close to Marmara Region' was defined as a crucial advantageous situation for the city. The participants stated that the city is not in a good position in terms of transportation due to a lack of sea, rail and air transportation. However, they indicated that being close to Ankara and Istanbul provides significant advantages for the city.

Case IV: Adana

This section will present three themes and perceptual attributes created from these themes for Adana. Different from the previous three cases, it was recognized that the three themes defined for Adana has close frequency of mention, which shows that the participants in Adana believed that the socio-cultural characteristics and the demographic and socio-economic structure, as well as regional/political location of the city, play a key role in determining the innovative entrepreneurship capacity of the city (see Appendix Table 5.5B).

A social structure with culture, values, beliefs and norms (cultural diversity, free thought, tolerance, good manners and strong production culture) supporting the formation of innovative thinking.

Since Adana is at a better level in terms of the level of innovation and entrepreneurial activities than the other three cases, the perceptual attributes related to the socio-cultural structure of the city that led to the formation and development of innovative entrepreneurial activities in the city were brought to the agenda. As a result of inductive qualitative content analysis, ten perceptual attributes related to the 'collective perceptions and values' content group were identified (see Appendix Table 5.5B).

Accordingly, the results showed that 'cosmopolitan and cultural diversity' is an essential socio-cultural feature that ensures the high level of innovative entrepreneurship activities in Adana. The participants stated that the city has received a lot of migration from outside and therefore has a quite cosmopolitan structure. This feature of Adana was also highlighted in the section where we described the cases.

For instance, one participant described the city as a mosaic of different cultures (A8). Also, the participants agreed that the city's diverse cultural and social groups have had a positive impact on both entrepreneurship and innovation activities.

Thanks to the cosmopolitan and cultural diversity of Adana, the participants emphasized that the society is 'open and tolerant to differences' in general. It was claimed that the community is highly tolerant of ethnic, cultural and religious differences. The participants implied a comfortable lifestyle in Adana and that no one disrespects people's lifestyle (A5, A10). In this sense, previous studies suggested that a diverse, open-minded and tolerant urban culture is a significant economic asset since it attracts the creative class (Florida, 2002; Qian et al., 2013). In other words, the more diverse the population of a region, the greater variety of knowledge coming from people's diverse backgrounds (Qian, 2012). Hence, a more diverse population means a variety of knowledge, which in turn meaning the creation of innovative entrepreneurial activities (Audretsch et al., 2010; Brixy et al., 2017).

In a similar manner, the participants argued that society has 'free and non-conservative thinking'. Unlike the social structure in Elazığ, the society in Adana is not conservative and traditionalist. It was argued that religious sensitivities in society are low, and individuals freely continue their beliefs and lifestyles. For example, it was stated that the rate of people going to mosques in the province is very low (See Appendix Table 5.5A).

Thanks to the characteristics mentioned above, the participants pointed to a 'social structure supporting innovation' in Adana. The participants claimed that the culture existing in Adana supports innovation and entrepreneurship activities. The fact that people in Adana are open-minded and that society is open to innovations and differences is shown as important features that positively impact the high level of innovation in the province. (See Appendix Table 5.5A).

With regard to Adana, perhaps the most critical issue to be emphasized is that the city has a 'strong production/trade/working culture', which may have enabled the province to have a high level of entrepreneurship and innovation activity. What an

entrepreneur says about this was remarkable *"the fact that people living in Adana are curious and rising from the ranks is one of the biggest reasons of creativity here. So, the people here have a characteristic that loves research and runs after what they do. This is due to the fact that they grow up in a culture of working in small businesses. That is to say, it is due to their apprenticeship through one-to-one work and their ability to come and grow up from there. In fact, there is a culture of production in Adana"* (A10). The participants also talked about the existence of a flourishing industrial and production culture in Adana since the establishment of the Turkish Republic. Since Adana is one of the first cities in which industrialization began, it was claimed that the public became very conscious about trade, production and industrial activities and that an ecosystem has been formed in the city.

Figure 5.5. Representation of words expressed by the participants in Adana related to the normative dimension of institutions according to the frequency of discourse.

Unlike the other three cases, 'the vitality of social and cultural life' and 'high manners and culture' were defined as other socio-cultural features that effectively make the city more innovative and entrepreneurial. Adana was found to be a very satisfying city by the participants in terms of culture, art and many other social

activities. In terms of socio-cultural, festivals, and cultural-artistic activities, Adana was mentioned as one of the country's important cities. A participant reported that "*what are the other advantages of Adana, social life should be put in the foreground immediately. I am married; for example, I could not take my wife to Maraş (a city close to Adana), as a person who lived in Istanbul before. Why, because I knew we couldn't adapt to the social life, etc., in Maraş, but I could convince her to bring her to Adana. There are amazing alternatives to social life in the evening when work is over. Ankara, Istanbul, Izmir, Bursa is a place with plenty of social alternatives. Adana is a big metropolis.*" (A1). As Adana is rich in these activities, the participants expressed that the society has a high level of manners and culture, which, in turn, leads to respect for differences and openness to innovation. It was also highlighted that the city is alive 24 hours a day, and people can enjoy themselves safely until late at night.

'Having agrarian elite' and 'having a strong relationship with abroad and knowledge transfer' were defined as characteristics specific to Adana, which were not found in other cases, and that would support entrepreneurship and innovation activities positively. The presence of land-rich people in Adana is one of the important issues emphasized by the participants. Together with the wealth from agriculture, it was reported that many land-rich people in Adana bought real estate abroad or in Istanbul and lived in these regions during certain periods of the year. Thus, most of these families have had a tendency and culture to educate their children abroad. It was stated that the children studying abroad have transferred their experiences, observations and trainings to Adana because they have a culture of investing in their own land. In addition, Adana was emphasised to be a city with strong connections overseas (See Appendix Table 5.5A).

However, despite all these positive features, it was expressed that there is sometimes a 'resistance to change' in Adana as in the whole country. It was emphasized that society could not easily give up their habits, and therefore, there is still a resistance to change in Adana. In particular, it was stated that the habit of individuals 'believing that they saw, rather than what they heard' prevents them from being open to

differences and changes (A1). It was told that individuals do not dream but instead want to see everything with their eyes.

Demographic, social and economic constraints and opportunities.

As in the other cases, there are constraints and opportunities in Adana that affect innovative entrepreneurship activity in demographic and socio-economic terms. However, unlike the other cases, the theme of 'demographic and socio-economic constraints and opportunities' in Adana has a high frequency of mention, such as 47%. Under this theme, three content groups are defined: 'demographic structure', 'urbanization and urban life' and 'economic activities'.

Throughout history, Adana has been a vital business site and the gateway to earnings for its environment. As the city has significant agricultural potential and includes large industrial facilities, it leads to many 'migration from the surrounding provinces'. The participants stated that Adana has received important immigration, especially in some periods. The first wave of migration came in the early 1900s with the start of cotton production in Adana. Subsequently, with the introduction of cotton in industry, Adana received significant immigration from the surrounding provinces and rural areas of Adana to work in the industrial sector, especially in the 1950s and 60s. Following this, the most significant wave of migration occurred between 1980-90 after the terror incidents in the provinces situated in the South East Anatolia Region and the subsequent evacuations of the villages. Lastly, the great emigration incident faced by Adana was due to the outbreak of the Syrian civil war in 2011. During this period, Adana, like other provinces in the region, has hosted many Syrian immigrants.

Thanks to these migrations, Adana has 'rich human resources'. Notably, it was frequently mentioned that Adana has significant potential in terms of labour. Thus, Adana was described as a suitable place for innovative investments and new ventures. Parallel to this, the literature conceptualizes human capital as a triggering factor of innovation and entrepreneurship activities (Maskell and Malmberg, 1999). That is to say, the development of human capital in society may facilitate the

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formation of innovation activities as well as increase entrepreneurship and competitiveness (Dakhli and de Clercq, 2004; Urbano and Turró, 2013).

Further, the participants claimed that the 'immigrants' entrepreneurship and adaptation to the city' is one of the important demographics and socio-economic advantages of Adana. It was suggested that the immigrants coming to Adana have achieved critical economic successes (See Appendix Table 5.5A).

However, due to unplanned population growth, participants pointed out 'unemployment and shortage of intermediate staff' in Adana. The participants argued that there are various job opportunities in Adana, but there are not enough suitable workers for these job positions. In other words, as the workers in Adana are accustomed to the agriculture sector, the participants stated that they have difficulty in adapting to the industrial sector because the industrial sector requires both more discipline and more experience and knowledge than the agricultural sector (A1, A2, A5).

Likewise, 'brain drain and capital flight' was described as the most important and frequently cited problem facing Adana. The participants stated that the young people who went to study abroad do not want to return to Adana anymore. In addition, it was claimed that qualified individuals in Adana began to leave the city because their living conditions began to change (deteriorate) with economic conditions. For all these reasons, it was argued that the transfer of knowledge and experience do not take place similar to the previous years.

As a result, it was claimed that all of these causes the 'change of demographic structure' in Adana. The participants said that with the increase of immigrants, the proportion of indigenous people has gradually decreased. In addition, it was underscored that the excessive migrations, especially during the periods mentioned above, create ghettoization in the city, which leads to an increase in social unrest in Adana. It was also reported that there are problems in building social cohesion or unifying cultures due to this ghettoization.

On the other hand, in terms of 'urbanization and urban life', Adana has developed more than the other three cases. In this regard, research shows that urban environments tend to support firm formation processes by providing more access to entrepreneurial opportunities and resources than rural, sparsely populated areas (Fritsch and Schroeter, 2011). Also, several researchers argued that urban environments could enable entrepreneurs to access easier and more networks and collaborations, which will contribute to the development of regional entrepreneurial activities (Liao and Welsch, 2005). It was emphasized that Adana is a metropolitan city and that it can offer sufficient social and cultural opportunities for future investors. A participant, for example, said that there is no reason for investors to worry about which school they will send their children to because there are good schools in Adana (A1). Moreover, it was claimed that the living standards in the city are high. Thus, Adana is an attractive place for innovation and entrepreneurship activities, despite some adversity in recent years.

With approximately 25% of the frequency 'economic activities' is the most frequently mentioned content group under this theme. In this respect, having productive, wide and convenient agricultural lands made Adana one of the most important cities in the agricultural sector. Adana, which has a fertile plain like Çukurova, was reported to produce many plants or fruits suitable for industry, such as citrus and cotton. Especially after the transition from dry agriculture to irrigated agriculture after the 1950s, Adana has increased its agricultural potential significantly (See Appendix Table 5.5A). Therefore, unlike other cases, the importance of agriculture for Adana is quite essential and different because industrialization in Adana started with agriculture. In other words, the industry in Adana developed based on raw materials, such as with the production of cotton that began in the late 1800s and its processing from ginning factories, Adana became one of the most critical textile industry cities in the country. With the development of other industrial facilities that feed and work with the textile industry, Adana became one of the top 5 industrial cities of the country until the end of the 1990s. However, as mentioned above, due to wrong policies and incentive practices, the city has been

experiencing a significant loss of power in terms of industrial investments recently. Even so, many participants pointed out that Adana has a strong industrial sector, and therefore there is a strong industrial and production culture in the city. Even today, Adana is claimed to be one of the most important industrial centres of the country in industrial diversity, size of facilities and industrial infrastructure.

Having a strategically important regional/political location.

In contrast to the other cases, Adana *'has a strategically important regional/political location'*. Many participants stated that Adana is at a very accessible point and, therefore, quite attractive for investments and entrepreneurship activities. For instance, due to the proximity of Mersin and İskenderun ports, the participants expressed that the city has a significant advantage in terms of logistics and transportation. Similarly, the city has a highly developed infrastructure in terms of rail, road and air transport. Low et al. (2005) and Taylor (2006) suggest that infrastructure elements such as highways and telecommunication networks enable entrepreneurs to access resources and markets that can lead to higher economic activities.

Similarly, the city has a 'proximity to raw materials and market', making the city attractive in terms of innovation and entrepreneurship activities. The participants claimed that it is relatively easy to access essential markets –Africa, Europe and the Middle East- from Adana. In other words, since the city is close to major industrial centres, it is easy to access raw materials required for industries in Adana. In that sense, unlike Van, Adana has a lower cost of access to raw materials and markets.

Besides, several participants argued that Adana has crucial 'advantageous in terms of geography and location'. Some participants stated that Adana is located in geography with a bright future after ten years. Also, a participant claimed that the province has a significant geographic and strategic position with its proximity to Africa, the Middle East and Europe and the arrival of the Tbilisi-Ceylan Pipeline in the city (A5).

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Having an 'appropriate climate and living condition' is another feature that influences investments and innovative entrepreneurship activities. Numerous participants stated that Adana is a city with a temperate climate, fertile agricultural land and abundant food. One participant said that when the Mediterranean climate meets fertile agrarian soils, it offers people a manageable living condition with plenty of alternatives (A7). Thus, it can be expected that opportunity-driven entrepreneurship might be more common than necessity-driven entrepreneurship in the province since people suffer less from livelihood (See Appendix Table 5.5A).

Furthermore, it was claimed that the fact that 'the city was an important place in the past' could be effective in creating a relatively higher level of innovative entrepreneurship activities than the other cases today. In this sense, it was stated that the city was a military garrison during the Roman Empire and was located at a vital trade junction, making Adana a regional capital (A5).

As a result, the participants in Adana expressed that the city is 'an attractive place for investments' thanks to all these regional and political advantages. One participant claimed that Adana is one of the few cities where 'innovative' investments can be made (A1). In particular, it was asserted that having an advanced Organized Industrial Zone gives the city a distinct advantage in this regard (A11).

5.2.3   Theme III: Having a weak perception of innovation and entrepreneurship in terms of the culture-cognitive institution.

The culture-cognitive dimension of institutions means the collective understanding of the public about social reality. In other words, this dimension is used as a reference for meaning in society. While the culture-cognitive dimension refers to the perception of the individual, the normative dimension refers to a collective sense (Welter, 2010). Several researchers argue that the culture-cognitive pillar in a society shapes the beliefs and perspectives of individuals in society about a topic (DiMaggio and Powell, 1991; Scott, 1995).

In this sense, this section aims to reveal the role of the culture-cognitive dimension of institutions in determining innovative entrepreneurship level differences between the cases/provinces. Inductive qualitative content analysis results described six content groups or categories: 'innovation perception and capacity'; 'institutionalization and innovation capacity of companies'; 'inter-company networks'; 'entrepreneurial culture'; 'perception of entrepreneurship'; and 'industrial structure'. However, since the perceptions and shared knowledge regarding entrepreneurship and innovation activities are weak in general, the theme of *'having weak perception of innovation and entrepreneurship in terms of culture-cognitive institutions'* was defined.

Innovation perception and capacity

Innovation is widely recognized as the primary tool and driving force of productivity, competitiveness and long-term economic growth (Alexander, 2012; Fritsch et al., 2019a).

The findings revealed that the 'innovation perception and capacity' was the third most emphasized content group with a 17% frequency of mentioning under Theme III (see Appendix Table 5.6B). Significant similarities and differences were identified between the cases regarding perceptions regarding the innovation capacity and importance.

In this context, 'the importance of innovation' was only brought up by participants in Van and Adana. For instance, the participants in Van declared that innovation is crucial for creating value-added and socio-economic and cultural development of the province (V1, V6). Similarly, participants in Adana said that innovation capacity is the main focus of the economy and contributes to the rapid and efficient development of the city (A5, A6). Thanks to innovation activities, the economic inputs increase considerably, which positively affects the economy, social and cultural life of the city (A6). It was also emphasized that the importance of innovation activities is indisputable and is the only remedy for economic development (A10).

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On the other hand, attention was drawn to the importance of 'global innovative developments' in all cases. All the participants emphasized that the provinces should not lag behind the technological developments and that these developments should be followed closely. Regarding this issue, globalization, global trade and competition, industry 4.0 and e-commerce have been essential topics brought from all cases (see Appendix Table 5.6A).

In addition, the participants in other cases, except Adana, acknowledged that they have 'low innovation activities'. The participants in Van stated that there is no innovative and high value-added production in the city, but instead, investments are made in businesses with a low level of knowledge (V1, V8). Therefore, the number of inventions and patents is relatively low in the city, but imitation is widespread. Similarly, the participants in Elazığ argued that the level of innovation activity (patent, utility model, etc.) in the city is not at the desired level, and it is even deplorable (E1, E9) (see Appendix Table 5.6A). In Bolu, the participants reported that R&D and innovation support applications are low and that entrepreneurs are more oriented towards service and trade sectors (B3, B11).

However, drawing attention to increasing 'R&D and innovation supports', the participants in Van and Elazığ indicated that both provinces have witnessed the 'recent increases in the innovation and R&D activities'. For example, it has been suggested that for Van, especially with the establishment of the technopark in the city, an awareness has started to develop concerning R&D and innovation activities (V1, V7, V8). On the other hand, with the increasing innovation and R&D supports in Elazığ, it was pointed out that the number of innovation and R&D projects in the city increased (E4). The result of these cases reveals that with the increase in technological infrastructure and support, there has been a visible improvement in innovation activities.

Differently from other cases, participants in Bolu complained about the 'use of technopark outside of purpose'. For example, the participants mentioned that the technopark is used for tax exemption and that most companies are not active (B10).

This situation is not unique to Bolu; similar problems exist in other provinces in the country. In most provinces, most of the firms on paper in technoparks are not really active. Most of them were established 'on paper' mostly to benefit from tax exemptions or other government subsidies.

Finally, only the participants in Adana put more emphasis on the "increasing importance of innovation activities". The prominence of the IT sector, Industry 4.0 and the dominance and productivity of the firms established in recent years show the increasing importance of innovation activities (A1).

Institutionalization and innovation capacity of companies

'Institutionalization and innovation capacity of companies' is the most frequently emphasized component of the culture-cognitive dimension. With an overall 31 per cent frequency of mention, this content group has the highest frequency in all cases (see Appendix Table 5.6B). Under this content group, the participants identified perceptual attributes of culture-cognitive institutions by drawing attention to the characteristics of family businesses in the country. In other words, because almost all of the companies in the country are family businesses, this section includes participants' perceptions about why (family) companies in their cities cannot be innovative. In fact, participants provide essential information about the current entrepreneurial ecosystem and the quality of entrepreneurship in their cities. Before moving on to the analysis results, it is helpful to summarize the critical problems mentioned in the literature about family companies.

In the entrepreneurship literature, family businesses are generally accepted as the backbone of the economy due to the wealth they create for the country's economy and the employment opportunities they provide (Cirpan and Alayoglu, 2018). Nearly 99 per cent of the companies operating in Turkey belong to families, and almost all of them are run by families. According to 2014 Turkish Statistical Institute (TurkStat) data, 99.8 per cent of these enterprises are composed of small and medium-sized enterprises (SMEs), providing more than half of all wages and 73.5 per cent all jobs in the country. They also accounted for 53.5 per cent of the value-

added generated in the country and made 55 per cent of total investments (Turkstat, 2016).

However, despite many positive aspects and advantages, family businesses have numerous problems, which have been widely discussed in the literature. For example, Kaya and Alpkan (2012) defined the most critical issue in family businesses as being unable to professionalize in a managerial sense. This results from the fact that the same person implements the ownership and management of SMEs and that the owner is the sole authority in the decision-making process. One of the most important factors behind such a situation is the founder's fear of losing control and executive power over the firm. Rutherford et al. (2006) argue that despite the need for external resources, the founder's insistence on having individual control over the firm may delay the firm's development by limiting its management capacity. In addition, the business owner does not trust and suspect others (Cirpan and Alayoglu, 2018). According to Gür and Alayoglu (2017), lack of trust in others is a common phenomenon among Turkish entrepreneurs, and this has been identified as one of the most critical obstacles to the institutionalization of enterprises. The problems of high mistrust in family businesses also lead to high transaction costs and low productivity.

Similar problems were identified for all four cases. The findings showed that 'traditional corporate structure and institutionalization problem' was the most frequently emphasized perceptual attributes in all cases. Participants in all provinces stated that the overwhelming majority of the companies operating are family businesses and that almost all of them have a quite poor institutionalization. For instance, a participant noted that "*ninety per cent of the businesses in our region and province are traditional family-type enterprises. Therefore, it is difficult to find innovative entrepreneurship with these traditional family-type businesses*" (V6). In other words, it was implied that all decisions are made by the founder of the company. Since the company founders do not want to lose control over the company and do not trust other people enough, they hesitate to transfer their authority or other

responsibilities to an account, manager, consultant or board of directors (see Appendix Table 5.6A).

Another problem related to non-institutionalization is that these companies produce through ancestral-grandfather vision. In other words, it was underlined that most companies do not feel the need to employ engineers or technical personnel, as these companies produce by conventional production methods. Therefore, it was stated that most of these companies do not have a forward-looking vision or strategy. In fact, it has been claimed that these companies started without a proper feasibility study when starting a business and, therefore, often failed. For example, it was reported that "w*hen we set up the company, before we put it into operation, that is, before we start manufacturing, we think that the money to be given to a team that will do its full feasibility is a luxury. This is probably the most important reason why all the facilities installed here fail at first."* (B2) In addition, the participants in Adana stated that the owners of the company were very reluctant to transfer the company to their children although they had educated their children in good schools (A1, A5) (see Appendix Table 5.6A).

Having the 'low R&D, innovation and knowledge capacity' was identified as another important common problem in all cases. The fact that SMEs in the country have low technology levels and inadequate R&D, innovation and institutionalization capacities are also stated in the KOSGEB (2012) research report. In this respect, the participants in Van argued that the culture of R&D and innovation in the companies here is weak and that the products produced as a result of R&D and innovation cannot be converted into trade. Similarly, the participants in Elazığ pointed out that firms operating here are not open to development, have a lack of knowledge, view R&D investments as unnecessary and do not conduct feasibility studies (E1, E6, E9). It was also emphasized that they do not appreciate the value of information and are not sufficient to convert it into economic value (E1).

In addition to these, the participants in Bolu emphasized that the number of firms thinking of making innovation, new investment and expanding the business is

relatively small (B3, B7). It was underlined that the companies here do not have the experience, capability and resources necessary for innovation (B4). However, it was stated that companies carry out R&D and innovation activities in an unconscious manner. For instance, a participant reported that *"within the scope of Public-University-Industry Cooperation (PUIC), we visited the companies in Bolu, and in fact, we witnessed that the companies are working towards innovation and R&D. However, entrepreneurs do it in an inexperienced and unconscious way without knowing that they are doing R&D work. They do not realize that this is R&D or how it will benefit them…"* (B3). A similar situation is valid for other provinces as well. Most of the firms in Turkey carry out R&D and innovation activities to keep up with the market, follow technological development and maintain their competitiveness. However, as specified here, they do these works unconsciously and without the idea of allocating a separate share from the budget.

The participants in Adana claimed that firms are indifferent to innovations and thus reluctant to transfer money to innovation activities. *"Industrialist in Adana has no intention of transferring money to innovations. They ask that if we invest in this when we start to make a profit"* (A10). The first thing the company owners think of is profit and loss. As mentioned above, most entrepreneurs avoid high-risk jobs because they have limited capital. If they cannot estimate the return on their innovation work, they usually avoid investing in that business.

Similar to the above perceptual attributes, 'low technology and low value-added production' is another concern expressed by participants in the four cases. In a similar vein, Karadag (2016) suggest that most SMEs in Turkey are composed of low-tech enterprises and produce low value-added products. In this regard, the participants in Van expressed that the predominance of the assembling industry and failure to convert the resources in the region to surplus-value are important problems related to the existing situation of the firms in Van. In Elazığ, it was emphasized that firms have uncomplicated production models which are based on low technology and existing natural resources. The major problems raised by the participants in Bolu are the inability to produce brands, added value and final products due to the

dominance of the subcontracting-based production model. Besides, the participants in Adana underlined that although we have an industry and production culture, most of the companies are operating with low efficiency and cannot exceed the efficiency threshold.

Having sufficient financial resources and easy access to finance is one of the most critical conditions for the successful development and growth of the private sector. Karacaovali (2016) suggests that firms cannot develop, innovate, and compete with other firms in the absence of financing. Likewise, in other cases, except for Adana, having 'low financial capacity' was identified as another obstacle for firms to be innovative. In this respect, the participants in Van, Elazığ and Bolu reported that the firms in these regions do not have the budgets to carry out innovation and R&D works. For example, one participant said that most businesses in this region do not have enough financial resources to employ engineers (E5).

The 'unplanned and sudden growth desire (fast rich desire)' is a problem expressed only by the participants in Van. It was claimed that Van's success rate and survival rate are very low because many newly established businesses pursue this purpose.

On the other hand, only participants in Bolu said 'subsidiary industry is an obstacle to innovation'. According to the participants, since there is a big producer in the city such as Arçelik, there are a large number of sub-industry producing companies and these companies are not interested in innovation activities because they produce according to orders from the parent company (Arçelik) (B3). In other words, innovation in such provinces depends mainly on the parent company. If the parent company has made a new product or process innovation, other companies working in the sub-industry will also innovate. However, if the parent company remains passive in innovation, the level of innovation in the province lags far behind (see Appendix Table 5.6A).

Inter-company networks

Networks facilitate the flow of information and resources and create entrepreneurial spirit and industrial diversity within or between regions. In other words, inter-company networks and knowledge sources are considered as crucial assets for creating and sustaining innovation activities (Koo and Cho, 2011). According to the results, with 21% of frequency 'inter-company networks' was the second most frequently mentioned content group under the theme of culture-cognitive dimension (see Appendix Table 5.6B). As emphasized in the literature, participants in four cases also pointed out the networks among firms. However, contrary to the discourses in the literature, in all four cases, inter-firm networks are not well established and entrepreneurs in these regions have not yet realized the importance of networks to innovation activities.

Although knowledge spillover and sharing have been widely accepted as a crucial source of innovation activities in a globalized world, participants in four cases declared that there is 'limited knowledge spillover/sharing among companies'. In the entrepreneurship and innovation literature, researchers recognize the spillover of knowledge between regions, firms and individuals as the main source of innovation (Lucas, 2010). Audretsch and Keilbach (2008) argue that the level of entrepreneurs' contribution to a region depends on their ability to transform knowledge into regional innovation and growth by creating and disseminating knowledge. However, contrary to the arguments in the literature, it was observed that knowledge spillover and sharing between firms in the four cases are quite limited. It was clearly emphasized that knowledge sharing among companies in these provinces is inadequate because knowledge is seen as a professional secret or the importance of knowledge sharing is not understood enough (see Appendix Table 5.6A). Most entrepreneurs think that if they share their ideas or projects with other entrepreneurs, their ideas will be stolen, so they keep and do their work as a secret. For instance, a participant in Bolu asserted *that "to apply for patent of Bolu chocolate, we visited the chocolate companies in Bolu, but none of them wanted to share their formula. They say that if we give the*

formula, it doesn't make sense for us to make this production because others will start using our formula immediately."

Parallel to this, 'fierce competition and low trust among companies' was described commonly as the main reason for having limited knowledge spillover and sharing among companies. Putnam (1993) argues that an individual's levels of trust are determined by the social and cultural background and experiences, which are formed by history, society, and culture. In other words, the degree to which individuals in a community trust each other or individuals in other communities is strongly dependent on their experience, traditions, beliefs, norms and upbringing. Therefore, it can be said that the confidence level of individuals in each region may be different from each other. In addition, Fukuyama (1995) states that trust is at the centre of reciprocal relations and is an essential factor necessary to reduce friction and transaction costs and increase productivity and efficiency in regional economies. Accordingly, trust can promote interaction and cooperation within and between economic actors, and thus facilitate the exchange of resources such as knowledge, information and skills (Dakhli and de Clercq, 2004; Akçomak and ter Weel, 2006; Doh and McNeely, 2012).

However, according to the content analysis findings, the opposite is valid in all four cases. The four cases reported that the level of inter-firm trust is quite low, and firms regard each other as competitors. Therefore, it was emphasized that it is almost impossible to identify a relationship based on knowledge sharing and trust among firms (see Appendix Table 5.6A). In that sense, a participant claimed that *"there is no partnership culture, why not here, because there is a problem of trust, and I think people can't see that; 'If we come together, we will be stronger."* (V10).

Furthermore, fierce competition and low trust among firms resulted in 'weak cooperation/partnership culture' in the cases. However, several researchers suggest that cooperation between firms reduce research-related risks and costs by allocating them among stakeholders, reducing opportunistic behaviour, providing access to information, facilitating access to expert workforce, and providing market diversity

(Katz and Martin, 1997). In other words, cooperation models represent a crucial aspect of innovation processes and determine the success of economic agents, firms and regions (Saxenian, 1994; Galaso and Kovarik, 2018).

In this regard, since the proportion of high-tech firms in all four cases is low (see chapter 3), it was frequently emphasized that the level of cooperation in these cases is quite low. It was claimed that the culture of cooperation has not developed in all four cases because of the overriding logic of *"let me do it alone, let me be stronger (tek başıma yapayım, daha güçlü olayım)"* or *"get less, but be mine (az olsun, ama benim olsun)"* (V2, E8, B1, A10). A participant reported that *"we do not have a culture of working together. Acting together is not our genetics…."* (V1). It was also suggested that the failed cooperation/partnership initiatives experienced in the past are effective in the emergence of the present situation. For instance, "*the culture of getting together and doing business together in Elazig, unfortunately, was interrupted 30-40 or even 40-50 years ago due to some negative examples… Unfortunately, after these bad examples, a serious partnership structure or culture did not emerge here.*"(E5) (see Appendix Table 5.6A).

However, it was claimed that there have been positive developments recently in Adana regarding the 'development of cooperation/partnership culture'. It was emphasized that within the scope of the Communiqué on the Promotion of the Development of International Competitiveness (UR-GE), joint projects were initiated to open the companies in Adana to abroad. Within the scope of UR-GE project, it was claimed that especially textile companies in Adana started to cooperate in exports by establishing collaborations (A2). This positive development in Adana with the efforts of the Adana OIZ administration reveals that there should be facilitators to bring entrepreneurs together.

Entrepreneurial culture

Entrepreneurial culture in a region is a key factor for the formation of new enterprises in that region (van der Zwan et al., 2013). Previous research has emphasized that the presence of entrepreneurial culture in a region plays an important role in the next

entrepreneurial activity, which leads to an increase in innovation activities (Davidsson and Honig, 2003).

However, as clearly shown in Appendix Table 5.6B, there are significant differences between cases in the context of entrepreneurial culture. The participants in Van, Elazığ and Bolu emphasized the 'weak entrepreneurial culture' and the 'development of the entrepreneurial culture', while the participants in Adana highlighted the 'existence of a strong entrepreneurial culture'.

The participants in Van pointed out that the entrepreneurial culture in the province is relatively weak. A participant suggested that *"entrepreneurship culture in the region is rather weak because of the rurality and low level of education."* (V7). Similarly, the participants in Elazığ reported that the tendency to become civil servants is predominant in their provinces, and therefore the entrepreneurial culture remained weak (E1, E5, E6). Moreover, the participants in Bolu indicated that there is no entrepreneurial spirit in Bolu and that many businesses operating in the province belong to people from other provinces (B1, B2). On the contrary, it was emphasized that there is an entrepreneurial spirit and culture in Adana and that the people of Adana are at the forefront of entrepreneurship activities.

Perception of entrepreneurship

Individuals' entrepreneurship intentions and perceptions are influenced by the attitudes, beliefs and expectations of the society in which they live (Krueger et al., 2000). Therefore, the 'perception of entrepreneurship' may differ in each region. According to the results, while the participants in Elazığ and Adana reported both positive and negative opinions about the 'individual risk-taking tendency', the participants in Van and Bolu reported only negative opinions. In the entrepreneurship literature, it is suggested that there is a strong link between individual risk-taking tendency and entrepreneurial intentions (Arenius and Minniti, 2005). Empirical studies show that individuals with a high risk-taking propensity are more likely to start a new business (Segal et al., 2005; Grilo and Irigoyen, 2006).

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In this context, in Van, it was suggested that as fear is visual, individuals do not want to believe in things they do not see (V2). In other words, it was emphasized that individuals wish to start a business after seeing all the risks associated with it. They stay away from risky businesses. Similarly, it was underlined that the risk aversion level in Bolu is high. It was highlighted that the people in Bolu hesitate to trade and especially avoid open-ended and uncertain investments (B7). The participants here declared that people in Bolu have high level of fear of failure so they want to guarantee all risks attached to starting a new business (B1, B2, B8, B11).

Figure 5.6. Representation of words expressed by the participants in all cases related to the culture-cognitive dimension according to the frequency of discourse.

On the other hand, fear of failure and risk aversion are also expressed for individuals in Elazığ, but some participants said that people in Elazığ like to take risks and enjoy taking risks. As in Elazığ, there are participants in Adana who claim that the individual's risk-taking level is high or low.

In relation to 'entrepreneurs as role models', significant perceptual differences have been identified between and within the cases. Except for Van, it was claimed that

there are successful entrepreneurship role models. In this regard, several scholars emphasized that the education system, the media and the professional chambers in the regions can be effective in introducing entrepreneurs as role models and changing regional norms and beliefs favouring entrepreneurial intentions (Verheul et al., 2002; Stenholm et al., 2013). Therefore, peer effects and role models are highly likely to encourage individuals to start new companies and innovation activities.

However, even if it was claimed that there are no successful entrepreneurship role models in Van, some participants claimed that entrepreneurs are becoming role models in the city. On the other hand, some participants in Van reported that individuals sometimes make the wrong role model selection. It was said that people act with the logic that, by looking at others, "he has it, I will take it" or "he has been rich, I will be rich" (V5). In Elazığ, while some participants mentioned the existence of successful entrepreneurship examples (e.g. İbrahim Taşel, who is the owner of one of the largest private schools in Turkey, Final School), other participants claimed that there are no entrepreneurs who could be successful role models. On the other hand, the participants in Bolu stated that many entrepreneurs could be role models in Bolu, such as İzzet Baysal, Beypiliç, etc. Still, individuals sometimes make wrong role model choices. The participants in Adana claim that there are examples of successful entrepreneurship in Adana.

Industrial structure

Only the participants in Bolu defined the current situation of the 'industrial structure' as an influential factor in determining the innovation level of the province. As indicated in Appendix Table 5.6B, 'industrial structure' was the third component of the culture-cognitive dimension of institutions with the highest frequency of mention (15%) in Bolu. The participants in Bolu expressed both the supportive and preventive aspects of the 'industrial structure' in innovation activities. In this line, the participants in Bolu underlined that the city has a 'weak industrial structure'. The participants determined the lack of industrial culture and the dominance of trade and service sectors as the most important factors that inhibit the development of the

industrial sector (B1, B4). Also, the absence of many large-scale firms in the city was defined as an indication that the industrial sector is weak.

On the contrary, a large number of participants pointed out the 'existence of large-scale firms' such as Arçelik, Barilla, Beypiliç, Şenpiliç etc. in Bolu. In particular, the presence of the Arçelik factory, which produces electric cookers, was identified by many participants as the most important driving force of innovation activities in the province. In fact, many participants claimed that if Arçelik left the city, the industrial sector in the city would face the risk of collapse because most firms in the manufacturing sector are operating as Arçelik's sub-industry. On the other hand, some participants identified the 'existence of large-scale firms' as one of the major obstacles to innovation activities because many firms operate as sub-industries of these firms and do not engage in innovation or R&D activities, as pointed out above.

The observations made during the field research clearly showed that many firms are working in sub-industry in Arçelik in Bolu. Almost all of these companies' life expectancy depends on the existence of Arçelik because they produce only in line with Arçelik's demands and directives. However, it was also determined that a significant number of companies that previously worked only as a sub-industry for Arçelik started to produce products for companies in similar sectors in other cities and countries. However, the number of such firms is very small. For this reason, Arçelik has undeniably contributed to the development and growth and maintenance of the industry in Bolu.

In addition, 'high staff productivity' was highlighted by the participants in Bolu as an essential advantage of the industrial sector. The slow turnover of personnel in Bolu was identified as a critical factor in the high production and productivity in the industrial sector (B5, B6). Besides, the 'clustering potential' of the textile, metal, wood, and leather sectors in the manufacturing industry was an essential regional advantage for developing the industrial and innovation activities (B1).

5.3   General Evaluation of the Qualitative Data

This section aims to evaluate the qualitative research findings obtained as a result of the content analysis. Based on the data obtained from the in-depth interviews, we will try to demonstrate how the regulative, normative and cultural-cognitive dimensions affect the innovative entrepreneurship levels of the cases, namely Van, Elazığ, Bolu and Adana, which are quite different from each other in terms of innovative entrepreneurship level. This section consists of three subheadings that show the effect of the three dimensions of the institutions.

Regulative Dimension

As explained previously, depending on the literature, the regulative dimension has been examined in four sub-titles: bureaucratic procedures, financial resources, incentives and supports, and local actors and social organizations, respectively.

Regarding the regulative dimension, common or individual problems that prevent the formation and development of innovative entrepreneurship were expressed by the participants in four cases. As frequently emphasized in the literature, the existence of *'heavy bureaucratic procedures', 'limited equity capital', 'difficulties in accessing financial resources', 'the weak relationship of the state incentives and supports with innovation activities'* and *'the lack of habit and culture of using these incentives'* are common problems observed in all four cases related to the regulative dimension of the institutions. On the other hand, *'the reduction of bureaucratic procedures'* is the only issue posed positively by the participants in the four cases regarding the regulatory dimension. In recent years, significant improvements have been taken place in the implementation of bureaucratic processes, particularly in terms of time and number of transactions, with the development of technology and the compliance of Turkey with EU and OECD regulations. As shown in Table 5.2, the number of procedures and time (days) required to start a new business in Turkey decreased from 14 and 39 days in 2004 to 7 and 6.5 days in 2018, respectively.

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In addition, laws, regulations and other bureaucratic processes drafted from the centre (Ankara), regardless of regional characteristics, were expressed as another obstacle to the development of innovative entrepreneurship. In other words, it was implied that regulatory rules prepared from top to bottom regardless of local culture, custom and tradition may not be compatible with the local.

The participants also suggested that there are serious difficulties in accessing financial resources, including personal saving, venture capitals, angel investors, etc. Moreover, entrepreneurs in Van and Elazığ, which are the provinces that lag behind in terms of innovative entrepreneurship level, stated that they have significant difficulties in accessing bank loans due to a number of reasons such as geographical barriers, negative climate conditions or security concerns. However, high-interest rates and informal individual savings (yastık altı mevduatlar) were defined as other factors preventing the development of innovative entrepreneurship in these provinces as in all provinces.

However, significant differences of opinion regarding the state incentives and supports were identified among the provinces. For instance, the participants in Bolu and Adana complained about the current incentive regime implemented in the country. That is to say; they thought it has seriously damaged their cities because they claimed to have lower incentive rates than some provinces near Bolu and Adana, and therefore the investments that should come to these two cities had shifted to such provinces. On the contrary, the participants in Van and Elazığ were very satisfied with the current incentive system because they said that the investments based on labour-intensive sectors have increased significantly in recent years as they have the highest incentive rates. Missing or incorrect practices in the existing incentive system and the use of incentives outside its purpose were considered as other critical problems preventing the development of innovative entrepreneurship. For example, the fact that the current incentive system is mainly geared towards large investments and projects and, in particular, it supports newly established activities, mostly ignoring existing ones, is seen as a fundamental problem and deficiency in its implementation.

On the other hand, the fact that the current incentive system equally supports all entrepreneurs without any sectoral discrimination was another shortcoming. Participants argued that this situation, unfortunately, paved the way for the use of incentives and supports outside of their goals and for wrong targets. They claimed that much of the support provided so far in the country went to the service sectors, such as restaurants, hairdressers, shopping malls and games halls, rather than innovative entrepreneurship activities. Some participants claimed that this system, which supports the opening of multiple similar activities on the same street or avenue, has also negatively affected the functioning of the existing market. Furthermore, others suggested that the missing points in incentive and support mechanisms have pushed individuals to easy jobs and wasted support.
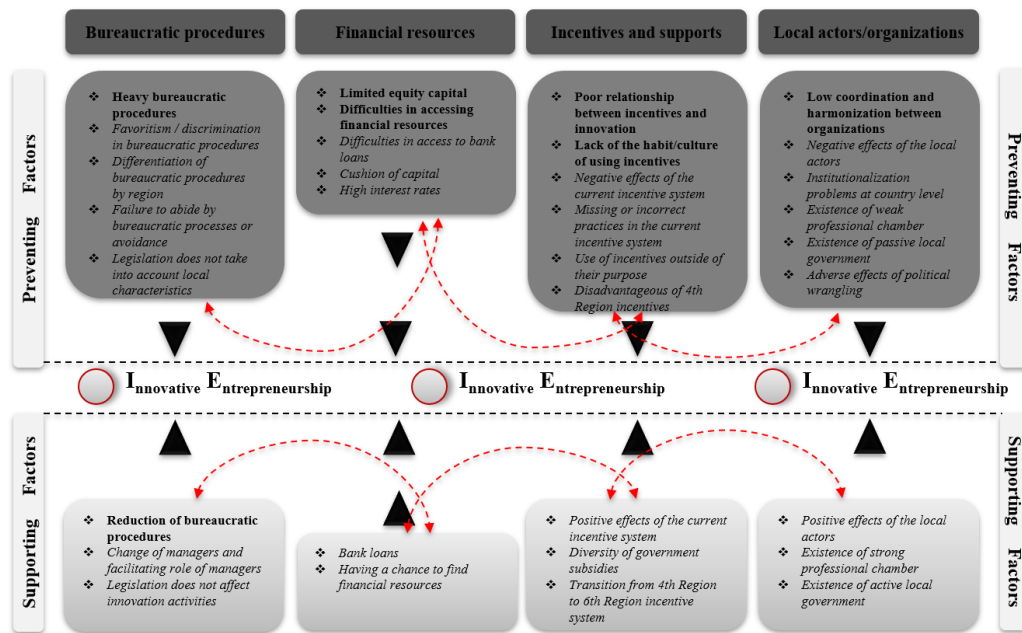
Figure 5.7. Regulative factors that prevent or support innovative entrepreneurship activities in the four cases. **Source:** Author's own evaluation (Notes: While bolds represent common views, italics show different views)

Government institutions, some kind of moderator or practitioner of the regulatory dimension, have played essential either preventive or supportive roles in the emergence of innovative entrepreneurship ideas. In this regard, different opinions were identified in the four cases/provinces. For example, while Elazığ and Van

municipalities were seen as highly passive in supporting innovative entrepreneurship, municipalities in Bolu and Adana positively affected the development of innovative entrepreneurship. A similar situation is valid for professional chambers; that is, the Chamber of Commerce and Industry in Bolu made a limited contribution to the development of innovation activities, whereas the Chamber of Commerce and Industry in Elazığ played an effective and positive role in the development of these activities. Similar divergences have been identified for other government agencies and organizations.

However, the most common problem expressed jointly was the lack of coordination and cooperation between the state institutions/organizations. The unannounced and disjointed work of each institution in the country has been seen as the biggest obstacle to developing innovative entrepreneurship activities. For example, an entrepreneur who will invest in the energy sector needs to get separate opinions from all state institutions. Government institutions sometimes give contradictions about the same investment. Obtaining opinions from each institution separately and occasionally differing views stand as an important regulatory dimension barrier to the initiation of innovation activities.

In addition, the fact that the municipality and central government have different political ideologies and the existence of political conflicts between these institutions in Van and Adana are another factor that adversely affects the development of innovation activities in these provinces. Being in politically different parties has sometimes been an essential reason for preventing central government bodies from coming together and conducting joint business with local government (municipality), or vice versa. The same applies to central government or municipalities working with NGOs. While the central government and the municipalities invite the NGOs they feel close to in terms of political views, and they may ignore the NGOs they are politically separated from. Lack of tolerance to different perspectives and the culture and habit of working together with those having different ideologies in the country may prevent municipalities, central government bodies and NGOs from working in harmony in many cities like Adana

and Van. In fact, many participants argued that because of the different ideological views, problems such as blocking of investments coming to the city or the disapproval or delay of the investments to be made have been experienced.

Normative Dimension

In this section, a general evaluation will be made on how culture, beliefs, norms, codes of conducts, preferences, traditions and expectations that constitute the normative dimension of institutions affect the formation and development of innovative entrepreneurship in four provinces. As Fernández (2008) points out, it is possible to define a separate normative dimension specific to each region, since the factors that create the normative dimension vary significantly according to regions and/or societies. Indeed, as stated, quite different results were obtained from the cases surveyed.

As a result of the field research and subsequent analysis, the factors that directly shape the normative dimension or indirectly affect the formation of this dimension were evaluated under three general themes for all cases. While the first theme was composed of the components of collective perception and values, the second theme was composed of components reflecting the demographic, social and economic situation of the society and the last theme was composed of components representing opportunities and barriers related to the political and regional location of the provinces. Naturally, since the findings in each case were quite different from each other, we redefined these themes to reflect the specific characteristics of the provinces.

Van

In this context, the three themes were redefined for Van. Under the first theme, tribalism and micro-nationalism, conventionalism and rurality are thought to be critical factors in shaping the normative dimension of the institutions in Van. Because of these three factors, the society in Van has not succeeded in transition from the communal society (Gemeinschaft) to the associational society

(Gesellschaft)[19]. The existence of strong family and relative relations and the dominance of the rural culture have made it difficult for individuals or society in Van to keep up with modern life. This situation also paves the way for small groupings within the community and the formation of jealousy and envy within the community or among individuals. Besides, due to the widespread rural culture in the city, the production, trade, and work culture have remained weak; on the other hand, society's level of manners and culture has remained low.

The political and ideological segregation of society was seen as another factor preventing the emergence of innovative entrepreneurship activities in Van. Political and ideological discrimination, coupled with tribalism, has an adverse effect on economic and social life in Van. For example, it has been noted that it is quite difficult for government agencies and NGOs with different worldviews to come together and exchange ideas about important decisions that closely concern the socio-economic development of Van. Nevertheless, it has been observed that the social structure in Van has also changed in a way that positively affects innovative entrepreneurship with the increasing social interaction thanks to technological developments in recent years.

There are also important demographic and socio-economic problems in Van, for example, terrorist events that started after the 1980s, adverse climatic conditions and geographical barriers led to the weakening of human capital in the city, and on the other hand, significantly prevent the formation of innovation-oriented investments and entrepreneurship activities in the city. In addition, Van, a metropolitan municipality where the urban population is close to 1.5 million, is a place where the rural culture and features are dominant. It is far behind the urban characteristics of Istanbul, Ankara, Izmir and other metropolitan cities; that is, compared to such

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[19] While Gemeinschaft represents rural life, personal relations in peasant societies, a social life based on traditional and social rules, Gesellschaft, on the contrary, represents a social structure shaped by modernism, cosmopolitan societies, bureaucracies and large industrial organizations (see Weber (2010)).

metropolitan cities, there are a limited number of socio-cultural activities for entrepreneurs who want to start innovative activities in this city. Moreover, the fact that it is a border city with Iran and Iraq has directed the people of the region to the smuggling and other illegal activities. Van is one of the major cities in the country where the smuggling of products such as fuel, cigarettes, electronic materials, and tea take place (see Babat, 2017[20]).
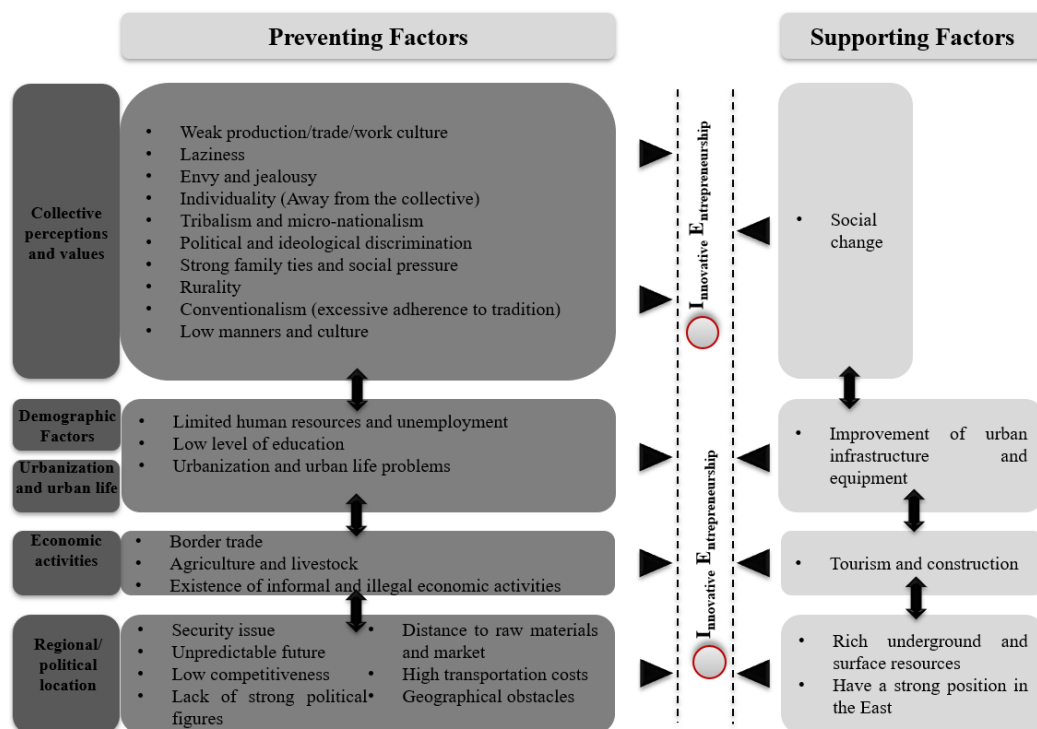
Figure 5.8. Normative factors that prevent or support innovative entrepreneurship activities in Van. **Source:** Author's own evaluation.

Moreover, Van is a city with significant disadvantages as a political and regional position compared to other cases. Security concerns and the absence of political figures that will make the city stand up; push the city into a politically unpredictable future. This situation in Van was described as one of the most important geopolitical problems for the emergence of more investments and innovative ideas. The

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[20] Source: http://sahipkiran.org/2017/02/12/turkiyede-kacakcilik-turleri/

participants suggested that due to security concerns, many investors are investing in other provinces in the west instead of investing in Van, although they have strong commercial relations with Iran and Iraq.

On the other hand, the geographical obstacles, such as distance to raw materials and markets and high transportation costs are significant reasons that deter investors from investing in Van, resulting in low innovation activities in the city. As a result, as long as Van's security problem and geographical barriers are not overcome, these problems seem to continue, which also seem to be the reason that put Van in the most disadvantaged position in terms of the demographic and socio-economic situation compared to other provinces. The combination of all these negativities leaves little chance for innovative entrepreneurship activities to flourish in Van.

Elazığ

Elazığ is a case that has a higher level of entrepreneurship than the country average but lower level of innovation and share of medium-high and high-tech sectors in total industries. Like Van, many collective perceptions and values have been identified in Elazığ, which prevent the formation of innovative entrepreneurship activities in the city. According to the findings, unlike Van and other cases, the most important social normative features that hinder the emergence of innovation activities in Elazığ are that the society is conservative and religious and relies on the state. The participants argued that the religious and conservative society has created pressure on individuals preventing them from being free and taking bold steps. Likewise, these features in society coupled with strong family ties and social pressure push society to be less tolerant to diversity and changes, leading to the blindness of individuals' innovative aspects.

On the other hand, Elazığ has been seen as an important 'buffer zone' in the eyes of the state due to the increasing incidents of terror going towards the east of Elazığ. For this reason, the state chose this province as an important centre and established numerous regional directories in Elazığ. Similarly, the state made large investments over time and established numerous state economic enterprises (SEEs). These

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developments started to affect the behaviour of the society in Elazığ. The job opportunities offered by the state led to the development of the mentality of being a civil servant in Elazığ and gaining weight in time. Such an environment naturally obstructs the society in Elazığ towards more innovative activities and pushes the community into passivity. In other words, according to the discourses of the participants, the prevalence of the habit of relying on the state has created a passive social structure, which negatively affects the research desire of individuals and prevents them from initiating an innovative business. One participant suggested that such a situation seems to lead to the emergence of a pattern of behaviour 'waiting for everything from the state' in society.
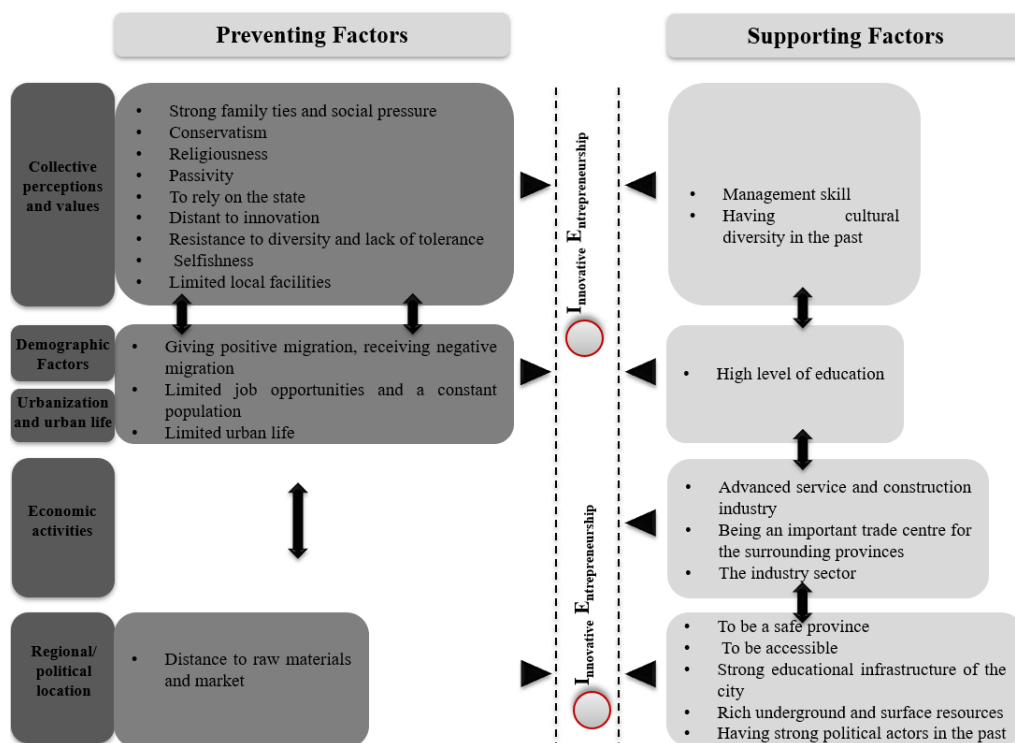
Figure 5.9. Normative factors that prevent or support innovative entrepreneurship activities in Elazığ. **Source:** Author's own evaluation.

Compared to Van, Elazığ has more important demographic and socio-economic opportunities, but the city is still experiencing some problems. While the university and a high level of education (human capital) in the city provide meaningful demographic opportunities for Elazığ, limited job opportunities and socio-cultural

facilities for highly-educated people cause a brain drain that pushes the city to a disadvantaged position. On the other hand, since the city is an important trade and management centre for other provinces in the east, it receives significant unqualified migration.

In terms of regional and political position, Elazığ has more advantages than Van because the city is a more accessible and safer place for investment and has richer underground and aboveground resources, a more favourable climate, a better education infrastructure and stronger political figures. However, compared to Bolu and Adana, Elazığ is far from raw materials and markets. These normative social features, which may not affect the entrepreneurship tendency of people in Elazığ, have explained why individuals and society are distant to innovative activities.

Bolu

Bolu is a case with a higher level of entrepreneurship and share of medium-high- and high-tech sectors than the country average, but a lower level of innovation. The normative characteristics of society, which constitute an obstacle to the formation and development of innovation activities in Bolu, are quite different from the other cases. The trauma caused by historical events in Bolu was described as an important obstacle for Bolu to reach more innovative activities. According to legend, in the 16th or 17th century, there was a Pasha known as the Bolu Beyi, who persecuted the people of Bolu. Today, there are numerous epics and poems about the folk hero Köroğlu who opposed the persecution of this pasha and later became legendary[21] (Bolu Municipality, 2020). Later, during the years of the collapse of the Ottoman Empire and the establishment of the Turkish Republic, the Bolu-Düzce rebellions took place and were severely suppressed[22] (Turkish Republic, Ataturk Culture, Language, and History Supreme Council, 2020). In the past, these acts of violence and oppression led to the formation of a historical memory passed from generation to generation in

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[21] Source: https://www.bolu.bel.tr/koroglu/, access date 13.01.2020
[22] Source: https://www.atam.gov.tr/nutuk/anzavur-ve-duzce-isyanlari, access date 13.01.2020

Bolu people. The persecution, violence and poverty experienced by the people of Bolu in the past paved the way for the emergence of the current characteristics of society. For instance, people here are more closed/introversion and timid. These characteristics are also reflected in their economic behaviour, such as the high fear of failure. When these combined with the hunger and misery in history, saving began to develop in the community. Thus, a frugal and saving society with a tendency to invest their money in banks instead of investing in an innovative activity has been formed.
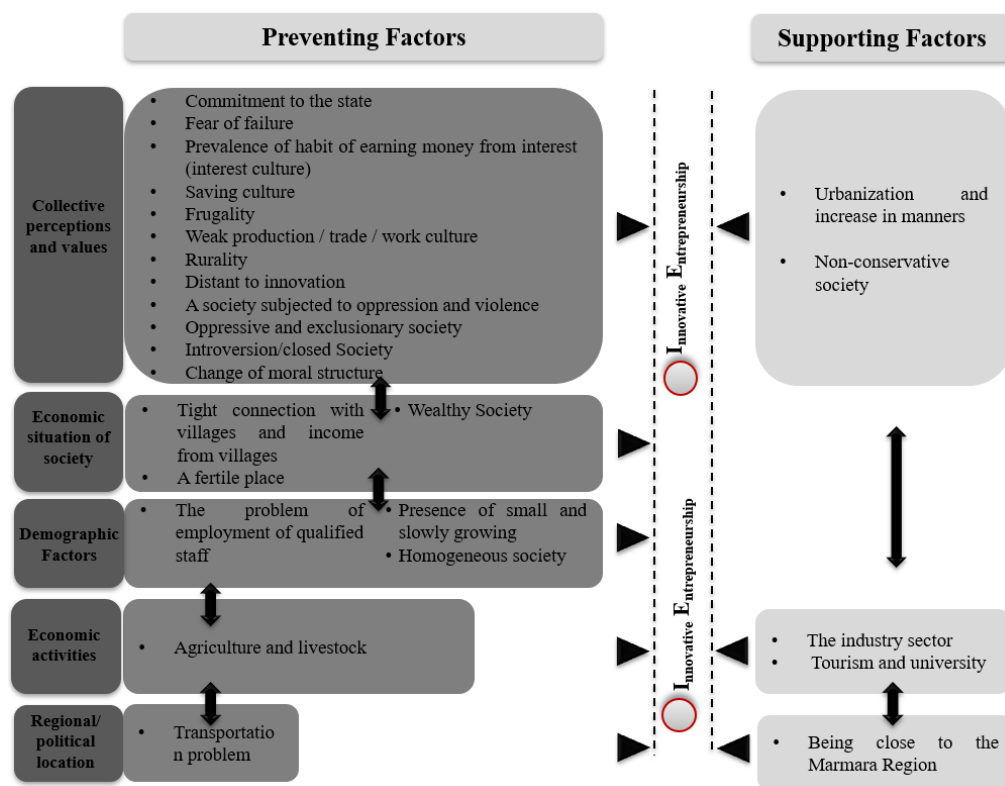
Figure 5.10. Normative factors that prevent or support innovative entrepreneurship activities in Bolu. **Source:** Author's own evaluation.

Having rural character, which leads to poor production, trade, and work culture, was identified as another reason why Bolu has a relatively low level of innovative entrepreneurial activity. On the other hand, the wealth of the people in Bolu gained from the fertile lands and the economic activities in the villages was recognized as an essential obstacle restraining them from starting innovative entrepreneurial

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activities. Compared with Van and Elazığ, Bolu is a province with better agricultural advantages regarding climate conditions and land structure. Since Bolu alone covers more than 30% of chicken production in the country, economic activities in the village have become very important, so that most people living in the city have a small chicken or egg production facility in the village. Hence, people can earn substantial income from agricultural production or animal husbandry so that they do not need to start an innovative activity; instead, they may choose to deposit their money in the banks and use the interest from banks as a source of livelihood.

However, the results show that, unlike Elazığ and Van, the Bolu people are non-conservative and have a higher level of manner and culture that can be explained by its proximity to metropolises such as Istanbul and Ankara.

On the other hand, having a small and low growth rate in the urban population was seen as one of the critical demographic constraints of Bolu. Compared to many cities in the west part of Turkey, Bolu has received a low rate of migration that has caused the population composition in Bolu to remain relatively homogeneous. Therefore, the formation of a social structure that does not accept and exclude foreigners in the city was expressed. This situation has deprived Bolu of the positive impact of migration, which contains various and abundant information sources on innovative entrepreneurship activities.

Contrarily, the university in city and tourism were introduced as two crucial socio-economic factors that positively affect the innovation activities in Bolu because these two activities enable Bolu to interact with the outside and transfer knowledge from the outside. In addition, the presence of a large company such as Arçelik in Bolu highlights the industrial sector as a factor that feeds innovation, unlike agriculture and animal husbandry.

In terms of regional and political location, the city has both advantages and disadvantages. Being close to the Marmara Region, where the country's most intensive industrial production took place, was an essential advantage for Bolu, but having no railway, airline, and maritime connection was a significant disadvantage.

Adana

Unlike the other three cases, Adana is one of the country's leading cities in terms of entrepreneurship, the high tech sector, and innovation. In the previous three cases, the factors that prevented the formation and development of innovative entrepreneurship were more prominent, while in Adana, the supportive factors came to the fore.

Adana has been a significant production and trade centre since the past. Its crucial geographical location, broad and fertile agricultural lands and favourable climatic conditions make Adana one of the critical centres of the country in terms of agricultural production. Naturally, the starting point of the industry in Adana was agriculture. The industry in Adana started with the processing of cotton produced in the region, followed by the textile industry, followed by the metal, petroleum and chemical industries.

Since Adana is an important centre of production and trade, many people from different cultures, religions, and races migrated here, so Adana has become the 6th largest city in the country with a population of more than 2 million. Thus, Adana has become a cosmopolitan place where people from various cultures live together. Because of this feature of Adana, people here are quite open and tolerant to differences and support free thinking. As suggested by several researchers, tolerance and diversity have been described as critical normative factors positively affecting the innovation activities in this city (see Florida (2002) and Qian (2012)).

Another feature that distinguishes Adana from other cases is the emergence of agrarian elites thanks to the income from large and fertile agricultural lands. This group of people has made significant contributions to the development of the city in terms of industry. Most of the agrarian elites, big capital holders, spent their agricultural income on establishing a new industrial enterprise in Adana. In addition, the close relations of the agrarian elites with big metropolises in the west or other countries ensured the transfer of new information to the city continuously, which is vital for the formation and development of innovation activities. Remarkably, thanks

to the children of this group studying abroad, necessary information transfers were realized from abroad to Adana.
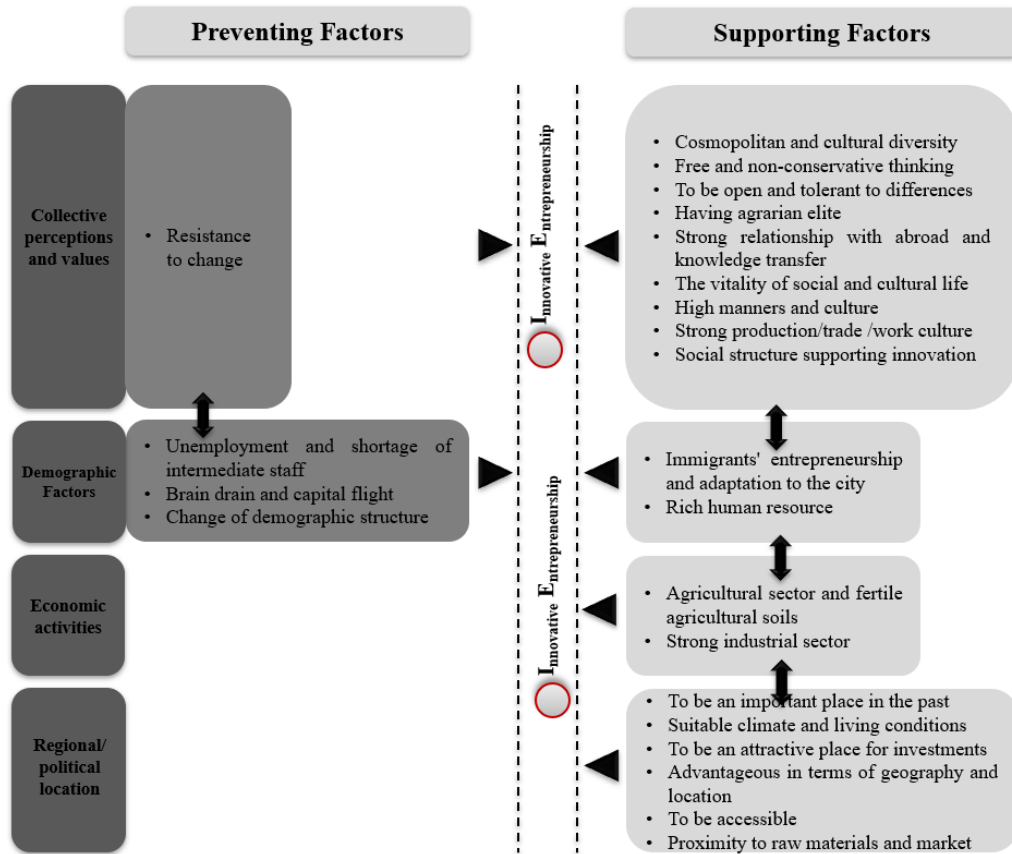
Figure 5.11. Normative factors that prevent or support innovative entrepreneurship activities in Adana. **Source:** Author's own evaluation.

Besides, since Adana is a metropolis, highly qualified people who will invest or work in this city do not need to worry about socio-cultural activities. According to respondents, Adana is a lively and attractive place from a socio-cultural point of view. Similarly, because of being a metropolitan city, society's level of manners and culture is higher. That is to say, different from other cases, Adana does not have a social structure that is religious, conservative, intolerant and distant from innovation. In contrast, Adana has a tolerant and non-conservative social structure that supports innovative entrepreneurial activities.

Perhaps the most influential normative factor in making Adana a more innovative city is that the society has a strong culture of production, work and trade from the past. According to the participants, having been an important trade and agricultural production centre since the past has played an essential role in the development of a strong trade culture in Adana. On the other hand, the start of cotton production in the region since the beginning of the 1900s and the industrial production triggered by this was a vital starting factor that enabled the development of a strong production and working culture in Adana. Thus, compared to other cases, Adana has the relatively higher experience and potential in technological development and innovative entrepreneurship activities.

However, although it has favourable climatic conditions, fertile agricultural lands and a strong industry sector, Adana struggles with the unemployment problem mainly due to the unfair practices in the incentive system, as mentioned above. When the wrong policies and practices were combined with some political reasons, brain drain and capital flight accelerated in Adana especially after the 2000s. On the other hand, Adana is still receiving many immigrants from the surrounding provinces and provinces in the Southeast Anatolia Region. With this migration, a new and influential information flow is provided for the development of innovative entrepreneurship, while at the same time, the city has obtained a rich and diverse human resource.

Besides, having a strategically significant political and regional location was introduced as one of the most crucial factors that differentiate Adana from the other cases and push it the more advantageous position in terms of innovative entrepreneurship activities. Firstly, Adana has been an important trade, production and management centre throughout history. Many historians have pointed out that Adana was an important military, administrative and production centre during the Roman Empire (Lloyd, 1998; Ramazanoglu, 2009). Secondly, it has favourable climatic conditions and land use for living and agriculture, which has been the starting point of the industry in Adana as in many developed countries. Thirdly, Adana has several geographical advantages; for example, the city has a border to the

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sea, has no serious geographical barriers to transportation, and is within a few hours flight to many countries and major metropolitan areas. Fourthly, the city has a very strong transportation infrastructure, such as maritime, railway, airline and road transportation. Fifthly, the city is close to raw materials and essential markets, which reduces investors' costs. As a result, Adana has more important advantages than the other cases in many respects, which may have played an influential role in making Adana more innovative over time.

Culture-cognitive Dimension

To better understand the current state of innovative entrepreneurship in the four provinces and the differences between these provinces, we need to focus on the culture-cognitive dimension of institutions reflecting the collective understanding of the public on social reality. As a result of the field research, the factors directly or indirectly reflect the culture-cognitive dimension that effectively determines the level of innovative entrepreneurship are categorized into six sub-headings as illustrated in Figure 5.12.

While the importance of global innovative entrepreneurship activities was referred to in all cases, it was stated that the level of innovative entrepreneurship activities is quite limited, especially in Van and Elazığ provinces. It was emphasized that these provinces lag far behind the global developments, but with the establishment of technoparks in these provinces, there is awareness about innovative entrepreneurship both in social and entrepreneurial activities. Although technoparks are criticized, they play an important role in making the provinces more innovative than the past with the awareness they create in the society. However, it is still essential to review the support given to the technoparks and the activities to take place in the technoparks.

On the other hand, in all cases, some problems at the firm level are significant obstacles to the development of innovative entrepreneurship activities. Maintaining traditional corporate structure (family business) and institutionalization problems were introduced as the biggest obstacle to innovation, technological development

and producing high value added products. Since the company owners are overly conservative and avoid risks, they have serious hesitations in transferring their powers to professionals and even to their children. Their solid belief that the way to earn money can only be achieved through their own methods and approaches prevents them from transferring their powers and trying different methods. This applies not only to entrepreneurs in four provinces but also to entrepreneurs in other provinces. Apart from this, other factors affecting the innovation activities of the cities at the firm level can be summarized as the fact that firms have the low financial capacity, which leads to low technological capacity and low value-added products. As noted above, inadequate financial capacity prevented the cases from having more innovative entrepreneurial activities.
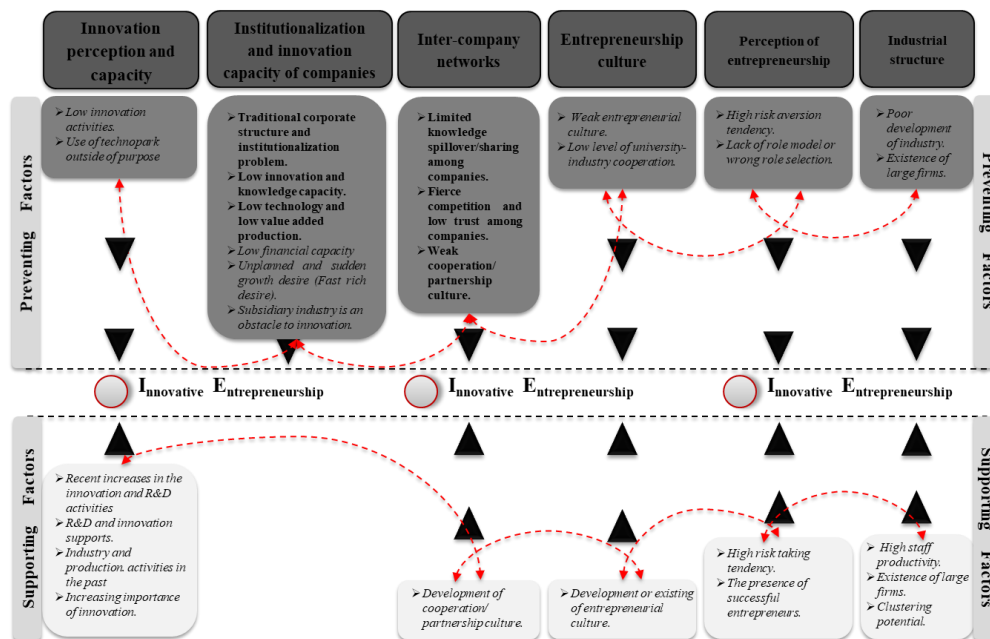
Figure 5.12. Culture-cognitive factors that prevent or support innovative entrepreneurship activities in the four cases. **Source:** Author's own evaluation (Notes: While bolds represent common views, italics show different views)

Furthermore, only in Bolu, the dominance of a large enterprise, Arçelik, which enabled the emergence of the sub-industry, was identified as one of the major obstacles to innovation activities. In other words, the fact that the companies depend

on the parent company and produce according to the orders given by the parent company prevents them from being more innovative. However, we must admit that since Arçelik is one of the critical technology and innovation producing companies in the country, the companies in Bolu are forced to increase their technological level with the continuous renewal of Arçelik's technology. In other words, although the sub-industry is seen as a barrier to innovation activities, it can positively affect the development of regional innovative entrepreneurship in the long-term, through providing experience, skills and training.

Weak inter-company networks emerged as an obstacle to the formation of innovation activities in all four cases. The lack of trust among the entrepreneurs and the fact that entrepreneurs or firms see each other only as competitors have played a vital role in the weak inter-firm networks in these four provinces, which has led to a weak or no knowledge sharing and cooperation/partnership among companies. On the other hand, it has been determined that only in Adana the cooperation/partnership culture has started to develop in recent years with constructive roles played by the Adana OIZ administration.

In terms of entrepreneurship culture, the results show a strong entrepreneurship culture in Adana, whereas the entrepreneurial culture in the other three provinces is still weak but developing gradually. As Adana has been an important trade and industrial city since the past, it has substantial differences from other cases. Moreover, individual risk-taking tendency and the role of entrepreneurs as role models are important issues that need to be examined to understand the effect of the culture-cognitive dimension of the institutions on regional innovative entrepreneurial activities. It was reported that individuals in Van and Bolu have a lower risk-taking tendency, while individuals in Adana and Elazığ have a higher risk-taking tendency. On the other hand, there are examples of successful entrepreneurship that could be role models for young people in other provinces except for Van. Van is far behind other provinces in terms of innovation and entrepreneurship activities. Culture, adverse climatic conditions, geographical

location and obstacles and security concerns have been significant barriers to the development of innovative entrepreneurial activities in the province.

CHAPTER 6

ANALYTICAL PROCEDURES AND RESULTS OF THE QUANTITATIVE PHASE

This study emerged as an effort to explore and explain the association between the three pillars of institutions, namely the regulative, normative and culture-cognitive, and regional innovative (or innovation-oriented) entrepreneurial activities. For this purpose, a mixed-method approach was adopted. In this regard, qualitative research was first conducted to understand and discover the relationship between these three dimensions/pillars of institutions and the level of innovative entrepreneurship, and the result is discussed extensively in chapter 5. Then, in the second stage of the study, a quantitative study was designed based on the findings obtained during the qualitative research and by adhering to the literature. The quantitative phase was constructed as survey research based on questionnaires conducted in Adana, Bolu, Elazığ and Van provinces. In this sense, the objective of this chapter is to analyse the quantitative data obtained through questionnaires.

This chapter, which describes the quantitative data analysis process, consists of two main sections as follows. The first section includes the analytical procedures in quantitative data analysis. This section will show how survey questionnaires were prepared for data analysis and reveal the process of how to analyse quantitative data. This section will present several analysis methods and findings from these analyses, such as descriptive statistics, Chi-Square test, reliability and validity tests, MANOVA, ANOVA, Discriminant Function Analysis (DFA), and Multinomial Logistic Regression Analysis. The last section provides place for discussion and evaluation of the results.

6.1 Results of the Quantitative Data Analysis

6.1.1 Reliability and Validity

The reliability and validity of the items used in this study were measured before proceeding to the analysis section. While reliability shows the consistency of the data, validity indicates the accuracy of the data. In this section, the results of the reliability and validity tests are presented.

Test of Reliability

The reliability of a measure is closely linked to the consistency of the items that measure a concept (Bryman and Bell, 2015). According to several researchers, it refers to how accurate the items used to measure the concept are and how much true value they produce (Sekaran, 2006; Hair et al., 2010).

Table 6.1 Reliability Analysis Results

Institutions' Dimensions	Sub-dimensions	Cronbach's Alpha	Number of Items	Valid Responses
Regulative Dimension	*Bureaucratic procedures, resources, incentives, and supports*	.870	25	170
	Roles of the local organizations	.862	8	170
Normative Dimension	*Collective perceptions and values*	.876	13	170
	Demographic, social and economic opportunities	.746	6	170
	Regional/political location	.759	11	170
Culture-cognitive Dimension	*Institutionalization and networks*	.839	11	170
	Entrepreneurship culture and perception	.720	13	170

In this study, Cronbach's alpha coefficient (Cronbach, 1951) was employed to measure the consistency of the scale. According to Tabachnick and Fidell (2013), Cronbach's alpha measures the internal consistency and reliability of the scale used to measure a concept. In this sense, Cronbach alpha value 0.7 is considered as an essential threshold value; items with values equal to or above this value are deemed

to have a sufficient level of consistency (Bryman and Bell, 2015). As shown in Table 6.1, variables are reliable with internal consistency values ranging from .720 to .876.

Test of Validity

A theoretical issue cannot be directly observed, but it is possible to observe them, in other words, to measure them only with some scales or measures developed by feeding on theory. However, it is critical to understand to what extent these scales can accurately measure issues that cannot be observed theoretically. Therefore, validity is developed as an indicator showing how well a research scale reflects unobservable theoretical topics (Ping, 2004). Several researchers argue that validity refers to the extent to which the items or measures used in the survey questionnaires accurately measure the intended concept, rather than measuring anything else (Sekaran and Bougie, 2009; Hair et al., 2010).

In general, two types of validation are commonly applied in research: content validity (or face validity) and construct validity (Ping, 2004; Sekaran and Bougie, 2009). Content validity shows how well the items in the questionnaires represent the concept to be measured (Zikmund et al., 2010). However, since there is no statistical method developed to measure content validity, the researcher's insight, experience, and the decision is critical (Kusumawardhani, 2013). In other words, the questionnaire items developed by the researcher to measure a theoretical concept must consist of the relevant literature and reflect the concept. In this study, content validity was fulfilled by deriving the items used in the questionnaire as a result of a comprehensive review of the relevant literature. In addition, as suggested by Sekaran (2006), a pilot test was carried out involving experts to evaluate the content validity of the items used in this study. Thus, the content validity of the questionnaire was tested, and inconsistencies were eliminated.

On the other hand, construct validity refers to what extent a scale or items used in the survey questionnaires can test the hypotheses or concepts (Sekaran and Bougie, 2009; Hair et al., 2010). Factor analysis is widely accepted as an appropriate method to examine construct validity. In this study, the Exploratory Factor Analysis (EFA)

was employed to analyze and measure construct validity, which shows the consistency between items in the questionnaire and the theoretical constructs.

Table 6.2 KMO and Bartlett's Test

Institutions' Dimensions	Sub-dimensions	Kaiser-Meyer-Olkin Measure Sampling Adequacy	Bartlett's Test of Sphericity		
			Chi-Square	df	Sig.
Regulative Dimension	*Bureaucratic procedures, resources, incentives, and supports*	.824	1436.70	300	.000
	Roles of the local organizations	.860	622.00	28	.000
Normative Dimension	*Collective perceptions and values*	.832	1012.66	78	.000
	Demographic, social and economic opportunities and potentials	.725	253.66	15	.000
	Regional/political locational opportunities and potentials	.729	509.38	55	.000
Culture-Cognitive Dimension	*Institutionalization and networks*	.832	702.40	55	.000
	Entrepreneurship culture and perception	.703	553.15	78	.000

Results of the Exploratory Factor Analysis (EFA)

In a broad sense, factor analysis is a statistical research method that summarizes the extensive data set to easily interpret and understand patterns and relationships (Yong and Pearce, 2013). That is to say, factor analysis is used to regroup variables in a limited number of clusters based on shared variance.

In this study, we used the EFA to reveal the patterns formed by the relationship between the items used to measure the three dimensions of institutions and reduce the number of variables. As used in many studies, we performed a Principle Component Analysis (PCA) with orthogonal rotation (Varimax) in this study. The PCA is a data reduction technique (Costello and Osborne, 2005), reducing a large number of variables into a smaller number of factors or components by extracting maximum variance from the dataset with each component (Tabachnick and Fidell, 2013). Yong and Pearce (2013) suggest that extracting too few factors may exclude the precious common variance, whereas extracting too many factors might lead to

undesirable error variance. Therefore, it is vital to choose the most appropriate criterion when deciding the number of factors to be extracted.

Table 6.3 Factor Loadings of Items measuring Regulative Dimension (Bureaucratic Procedures)

Name of the Factors	Items	1	2	3	4	5
Supportive government bodies.	R13	.706				
	R14	.690				
	R16	.684				
	R21	.666				
	R11	.622				
	R20	.602				
	R12	.599				
	R17	.593				
	R25	.549				
	R15	.502				
	R19	.425				
Advantageous government incentives and supports.	R9		.693			
	R10		.688			
	R7		.672			
	R8		.601			
Fair business environment.	R24			.712		
	R23			.668		
	R22			.633		
	R18			.493		
Well-functioning bureaucratic procedures.	R2				.755	
	R1				.736	
	R3				.648	
Accessible financial resources.	R5					.693
	R4					.581
	R6					.574
Eigenvalues after rotation		6.79	1.88	1.59	1.52	1.29
Variance explained by individual factor after Varimax rotation (%)		27.16	7.51	6.36	6.08	5.15

Info: Extraction Method: Principal Component Analysis, Rotation: Varimax with Kaiser Normalization. Note: See Survey Questionnaire for the meanings of Rs'.

In factor analysis, eigenvalues and the Scree test (scree plot) are the primary indicators used to determine the number of factors to retain. As a rule of thumb, the criterion developed by Kaiser is the most commonly used criterion to determine the number of factors to be retained. This criterion proposes to preserve all factors with an eigenvalue greater than 1 (Kaiser, 1960). Scree test, which is obtained by comparing eigenvalues and factor numbers, is another criterion used in determining the number of factors. Data points above the point where the curve in the graph is

clearly broken determine the number of factors that need to be protected. In this study, the numbers of factors were determined by considering both criteria.

Table 6.4 Factor Loadings of Items measuring Normative Dimension (Collective Perceptions and Values)

Name of the Factors	Items	1	2	3	4
A collaborative society.	N2	.746			
	N5	.739			
	N4	.738			
	N3	.737			
Openness to new ideas and information.	N8		.875		
	N7		.860		
	N6		.734		
	N1		.506		
Diversity and tolerance.	N13			.858	
	N12			.851	
	N11			.518	
No fear of failure.	N9				.828
	N10				.801
Eigenvalues after rotation		5.34	1.60	1.19	1.06
Variance explained by individual factor after Varimax rotation (%)		41.07	12.31	9.18	8.15

Info: Extraction Method: Principal Component Analysis, Rotation: Varimax with Kaiser Normalization. Note: See Survey Questionnaire for the meanings of Ns'.

Besides, in factor analysis, two assumptions must be fulfilled to determine the factorability of the items used to measure the content or the theory. For this reason, Kaiser, Meyer, Olkin's (KMO) sampling adequacy measure was first examined before analyzing the individual PCA results. The KMO shows the variance rate in variables that underlying factors can cause. To show that an EFA meets the factorability criteria, the KMO should be greater than 0.6 (Tabachnick and Fidell, 2013). Secondly, Bartlett's test of sphericity is used. This tests the hypothesis that the correlation matrix is an identity matrix, indicating that the variables are unrelated and therefore not suitable for structure determination (Field, 2013). The significance level of less than 0.05 meets the criteria for the factorability of the items. The PCA results show that all assumptions were fulfilled: while the KMO values ranged from

0.703 to .860, the Bartlett test results for all dimensions had a significance level of less than 0.001 (see Table 6.2).

Table 6.5 Factor Loadings of Items measuring Normative Dimension (Demographic, Social and Economic Opportunities/Potentials)

Name of the Factors	Items	1	2
Income effect.	N19	.843	
	N18	.833	
	N14		.778
The level of education and urbanization.	N15		.761
	N16		.606
	N17		.570
Eigenvalues after rotation		2.68	1.18
Variance explained by individual factor after Varimax rotation (%)		44.62	19.68

Info: Extraction Method: Principal Component Analysis, Rotation: Varimax with Kaiser Normalization. Note: See Survey Questionnaire for the meanings of Ns'.

Table 6.6 Factor Loadings of Items measuring Normative Dimension (Regional/Political Locational Opportunities/Potentials)

Name of the Factors	Items	1	2	3
	N25	.753		
	N26	.679		
Strategic location/ Having historically and geographically critical strategic position.	N29	.674		
	N24	.674		
	N30	.504		
	N20	.466		
Proximity to the market and raw materials.	N28		.890	
	N27		.859	
	N23			.772
Supportive political environment.	N21			.713
	N22			.663
Eigenvalues after rotation		3.48	1.61	1.20
Variance explained by individual factor after Varimax rotation (%)		31.61	14.61	10.87

Info: Extraction Method: Principal Component Analysis, Rotation: Varimax with Kaiser Normalization. Note: See Survey Questionnaire for the meanings of Ns'.

Since different sub-dimensions of the three dimensions of institutions were identified in the qualitative data results section (Chapter 5), different item groups were created to measure each sub-group. For this reason, in this study, seven PCAs were carried out for seven groups of items developed to measure the three dimensions of

institutions (see Table 6.2). While two PCAs were conducted for the regulative dimension, three for the normative dimension and two for the culture-cognitive dimension. Only factors with an eigenvalue of 1.0 or more were retained. In this respect, different numbers of factors were determined for seven variable groups.

Table 6.7 Factor Loadings of Items measuring Culture-cognitive Dimension (Institutionalization and Innovation Capacity and Networks among Firms)

Name of the Factors	Items	1	2
	C11	.845	
Networks (trust, knowledge share, and cooperation) among entrepreneurs.	C8	.795	
	C7	.743	
	C9	.732	
	C10	.686	
	C4		.710
	C5		.667
Institutionalization and innovation capacity.	C1		.640
	C3		.571
	C2		.562
	C6		.514
Eigenvalues after rotation		4.48	1.46
Variance explained by individual factor after Varimax rotation (%)		40.71	13.26

Info: Extraction Method: Principal Component Analysis, Rotation: Varimax with Kaiser Normalization. Note: See Survey Questionnaire for the meanings of Cs'.

After confirming the factorability of the variables, the second step of the analysis, consisting of the factor extraction and factor rotation, was started. Factor extraction refers to the process of deciding how many factors to keep (Field, 2013). On the other hand, rotation refers to simplify and clarify the data structure (Costello and Osborne, 2005). Using PCA with orthogonal rotation (Varimax), factor extraction and rotation were performed for all item groups.

As a result of factor extraction, for the first item-group of the regulative dimension, consisting of 25 items, seven factors with an eigenvalues value greater than 1.0 were determined, while for the second item-group of this dimension, including eight items, only one factor was determined. While the factors retained for the first item-group explained a total variance of 60.92%, the factor in the second item-group explained a total variance of 53.05%. Since only one factor was obtained for the second group,

no rotation was performed, but for the first group, the number of factors was reduced to six since one factor contained only one variable as a result of the first rotation. Later, a similar situation occurred in the 6-factor result, and therefore, it was deemed appropriate to reduce the number of factors to 5. Thus, a 5-factor structure was obtained by rotating three times, which explained 52.25% variance in total. Table 6.3 shows the loads of variables, their distribution by factors and the names of the factors retained.

Table 6.8 Factor Loadings of Items measuring Culture-cognitive Dimension (Entrepreneurship Culture and Perceptions)

Name of the Factors	Items	1	2	3	4
Individual risk-taking and uncertainty-bearing tendency.	C14	.840			
	C13	.824			
	C15	.753			
	C16	.604			
	C12	.513			
Dissemination of the entrepreneurship culture (media impact).	C21		.812		
	C20		.719		
	C24		.644		
Entrepreneurial skills, knowledge, experience.	C18			.794	
	C17			.782	
	C19			.423	
Role models.	C22				.875
	C23				.859
Eigenvalues after rotation		3.31	1.82	1.55	1.14
Variance explained by individual factor after Varimax rotation (%)		25.50	13.98	11.91	8.78

Info: Extraction Method: Principal Component Analysis, Rotation: Varimax with Kaiser Normalization. Not: See Survey Questionnaire for the meanings of Cs'.

On the other hand, three item groups were constructed in the survey questionnaire to measure the normative dimension of institutions. While 'the collective perceptions and values constituted to 13 items, the demographic, social and economic opportunities included six items, and finally regional/political location consisted of 11 items. After extraction, four factors for the first item-group, 2 factors for the second item-group and 4 factors for the last item-group were determined. While the factors obtained in the first item-group explained 70.72% of the variance in total, the

factors obtained in the second item-group explained 64.29%, and those in the last item-group explained 66.54% (see Table 6.4-6). The number of factors retained for the first two groups was preserved, but the number of factors obtained for the last group was reduced to 3 because only one variable loaded in the last factor. Thus, the variance explained in the last group reduced to 57.09%.

To measure the culture-cognitive dimension of institutions, two item groups were used in the survey questionnaire. As a result of the factor extraction and rotation, two factors were retained from the first item-group, including 11 items and explain 53.97% variance in total (see Table 6.7). But, four factors were retained from the second item-group, consisting of 13 items and explained 60.16% of the variance in total (see Table 6.8).

However, after the factors were extracted for each group of variables, the degree to which the variables are loaded on each factor can be evaluated. Although 0.30 is broadly accepted as a lower limit for factor loadings (Hair et al. 2010; Tabachnick and Fidell, 2013), only the factor loadings with values greater than 0.40 were taken into consideration in this study with a sample size of 170 participants. According to the PCA results, the variables were loaded on factors with load values ranging from 0.423 to 0.890.

Also, there were no cross-loading items. Only four items out of 87 items had communalities values, referring to the extent to which an item correlates with all other items, lower than .40. over 90% of the items had higher communalities over than 0.50. Therefore, according to the criteria defined by Costello and Osborne (2005), the data in this study seem sufficiently strong. In addition, the ratio between sample size and the number of variables was found as 6.8 (170: 25), which is above the general rule of thumb, which is 5 (Hair et al., 2010).

As a result, six factors were extracted for the regulative dimension, while for the normative and culture-cognitive dimensions, nine and six factors were obtained, respectively. These factors were used as variables representing the three institutional dimensions in analyses (ANOVA and Regression) in the following sections. For this

reason, the value of each factor was calculated by averaging the values of the items clustered under that factor.

6.1.2 Descriptive Statistics

This section provides information regarding the demographic characteristics of entrepreneurs and the firms they operate to show the differences between the cases. To do this, the Chi-square test was used to show how demographic characteristics of entrepreneurs and firms differ according to the provinces.

Demographic Characteristics of Entrepreneurs

Table 6.9 shows that more than half of the entrepreneurs have a degree, and almost one-third of them are high school graduates. The table also shows that entrepreneurs in Adana and Bolu are more likely to have higher education level than those in Van and Elazığ. However, since the Chi-square analysis result is not significant at the 0.05 level, the null hypothesis is failed to be rejected, which means that there are no statistically significant differences in education level of entrepreneurs between these provinces.

Table 6.9 Education Levels of the Respondents

	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
Education levels	*Percentage (%) of Respondents*					
Primary school graduate	30,6	25,6	12,1	14,5	20,0	
High school graduate	36,1	23,1	18,2	30,6	27,6	
Collage degree	8,3	10,3	12,1	8,1	9,4	*X = 17.16*
Bachelor's degree	22,2	28,2	45,5	43,5	35,9	*df = 12*
Master's degree	2,8	12,8	12,1	3,2	7,1	*p = .144*
Total	100	100	100	100	100	
N. of respondents	36	39	33	62	170	

On the other hand, Table 6.10 demonstrates that more than half of the entrepreneurs worked in the same sector either as employee or self-employed before they started the current economic activities. Since the proportions of the provinces are quite close

to each other, the Chi-square result was not significant. This result shows that entrepreneurs tend to continue their careers in the same sector.

Table 6.10 Whether the Participants Worked in the Same Sector in their Previous Jobs?

Work Experience	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
		Percentage (%) of Respondents				
No	36,1	38,5	36,4	32,3	35,3	
Yes	63,9	61,5	63,6	67,7	64,7	X = 0.45
Total	100	100	100	100	100	df = 3
N. of respondents	36	39	33	62	170	p = .930

As illustrated in Table 6.11, almost three-quarters of entrepreneurs have no other investment or economic activity other than the firm they own. However, entrepreneurs in Elazığ differ from other provinces because more than 40 per cent of them have at least an investment elsewhere. On the contrary, Adana has the lowest ratio of entrepreneurs declaring that they have an investment elsewhere. Despite these differences, no statistically significant differences were found as a result of the Chi-square test.

Table 6.11 Whether the Participants have Investments elsewhere?

Investments in elsewhere	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
		Percentage (%) of Respondents				
No	75,0	59,0	78,8	82,3	74,7	
Yes	25,0	41,0	21,2	17,7	25,3	X = 7.27
Total	100	100	100	100	100	df = 3
N. of respondents	36	39	33	62	170	p = .064

Demographic Characteristics of Firms

General Characteristics

According to the Chi-square test result, there are no significant differences between the establishment years of the companies. As shown in Table 6.12, the distribution of the firms by provinces is more or less similar according to their establishment

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years. In fact, this result shows that the selection of firms/entrepreneurs was made correctly and homogenously according to the provinces.

Table 6.12 Establishment Years of the Firms

Years of Establishmet	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Percentage (%) of Respondents					
Before 1980	8,3	5,1	6,1	3,2	5,3	
Between 1981-90	2,8	5,1	18,2	17,7	11,8	
Between 1991-2000	16,7	17,9	27,3	25,8	22,4	
Between 2001-10	36,1	30,8	30,3	22,6	28,8	X = 17.82
Between 2011-15	19,4	23,1	3,0	21,0	17,6	df = 15
After 2016	16,7	17,9	15,2	9,7	14,1	p = .272
Total	100	100	100	100	100	
N. of respondents	36	39	33	62	170	

Table 6.13 Types and Partnership Structures of the Firms

	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
Types (% of Respondents)						
Independent	94,4	97,4	93,9	95,2	95,3	
Member of a business group	5,6	2,6	6,1	4,8	4,7	X = 0.59
Total	100	100	100	100	100	df = 3
N. of respondents	36	39	33	62	170	p = .898
Partnership (% of Respondents)						
No partnership	41,7	38,5	57,6	41,9	44,1	
Family members	44,4	41,0	30,3	43,5	40,6	
Non-family domestic partners	13,9	17,9	6,1	8,1	11,2	X = 14.13
Foreign partners	0,0	0,0	6,1	6,5	3,5	df = 12
Other	0,0	2,6	0,0	0,0	0,6	p = .292
Total	100	100	100	100	100	
N. of respondents	36	39	33	62	170	

There is almost no difference between the provinces in terms of the types or qualifications of companies. According to Table 6.13, more than 95 per cent of companies in all provinces are independent enterprises. On the other hand, Table 6.13 illustrating the partnership structure of the firms demonstrates that more than 80 per cent of the firms are either a sole proprietorship or family business. Contrarily, companies with domestic or foreign partners consist only about 15 per cent of the

total. The Chi-square test is found insignificant, meaning there is no significant difference between provinces in partnership.

Financial Structure

The results in Table 6.14 indicate that about 90 per cent of the firms were established using only equity capital, consisting of personal savings and family, relatives and friends' supports. However, around 4 per cent of the firms were founded using only bank credits or debts from people. The Chi-square analysis shows that there is no significant difference between the provinces (p > 0.05).

Table 6.14 Financial Sources used in the Establishment of the Firms

Initial Financial	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Percentage (%) of Respondents					
100% Equity capital	83,3	94,9	81,8	88,7	87,6	
100% Debts from people	0,0	0,0	3,0	3,2	1,8	
100% Bank loan	0,0	0,0	3,0	3,2	1,8	*X = 9.83*
Mixed	16,7	5,1	12,1	4,8	8,8	*df = 9*
Total	100	100	100	100	100	*p = .365*
N. of respondents	36	39	33	62	170	

Table 6.15 Financial Structures of the Firms

Financial Strict.	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Percentage (%) of Respondents					
100% Domestic capital	100,0	100,0	93,9	90,3	95,3	
Above 50% Domestic capital	0,0	0,0	0,0	3,2	1,2	
Above 50% Foreign capital	0,0	0,0	0,0	1,6	0,6	*X = 9.62*
100% Foreign capital	0,0	0,0	6,1	4,8	2,9	*df = 9*
Total	100	100	100	100	100	*p = .382*
N. of respondents	36	39	33	62	170	

In addition, entrepreneurs were asked what quantities of domestic or/and foreign capital they used to establish their companies. According to the results in Table 6.15, more than 95 per cent of firms were established using only domestic capital, whereas only about 3 per cent used only foreign capital. While the company, which was established using only foreign capital, is not found in Van and Elazig, around 5% of

such companies are in Adana and Bolu. However, these differences were found statistically insignificant.

Table 6.16 Annual Turnover of the Firms

Turnover	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Percentage (%) of Respondents					
Below 1 Million	35,3	10,0	26,9	20,5	21,4	
Between 1 to 5 Million	41,2	43,3	38,5	34,1	38,5	
Between 5 to 25 Million	23,5	33,3	26,9	36,4	31,6	$X = 12.14$
Between 25 to 50 Million	0,0	10,0	0,0	2,3	3,4	$df = 12$
Above 100 Million	0,0	3,3	7,7	6,8	5,1	$p = .435$
Total	100	100	100	100	100	
N. of respondents	17	30	26	44	117	

Apart from the financial structures of the firms, information on the annual turnover of the firms was also obtained. As presented in Table 6.16, more than 70 per cent of the firms have a turnover between 1-25 million. In contrast, the proportion of firms with an annual turnover of over 50 million is only around 8 per cent. According to the Chi-square results, there is no statistically significant difference between the provinces.

Table 6.17 Whether the Firms Export?

Export	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Percentage (%) of Respondents					
No	94,4	76,9	63,6	67,7	74,7	
Yes	5,6	23,1	36,4	32,3	25,3	$X = 11.25$
Total	100	100	100	100	100	$df = 3$
N. of respondents	36	39	33	62	170	$p = .010$

Table 6.17 shows whether firms are exporting, suggesting that only 1 in 4 of the firms declared to export. Meanwhile, the result of the Chi-square analysis rejects the null hypothesis and indicates that spatial differences play a statistically significant role in the export of the firms. In particular, the results show that the firms in Adana and Bolu are more likely to export than firms in Van and Elazığ.

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Human Resources

In this section, information about the human capital and employment sizes of the firms will be covered. Approximately 96 per cent of the firms are small and medium-sized enterprises (SMEs), according to the definition and classification made by OECD and the EU. The rate is more or less the same as the country average. However, as presented in Table 6.18, there is no significant association between the location and employment rate. On the other hand, there are no medium and large-sized companies in Van, whereas the highest proportions are in Elazığ, Bolu and Adana, respectively. According to Van Chamber of Commerce and Industry data, no firms in the high and medium-high technology class employ more than 50 workers in the province. Nevertheless, to increase the representation power of the study, we tried to include enterprises from each size in the survey

Table 6.18 Establishments' Sizes of the Firms

Size	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Percentage (%) of Respondents					
0-9 (Micro)	44,4	28,2	42,4	35,5	37,1	
10-49 (Small)	55,6	46,2	33,3	45,2	45,3	
50-249 (Medium)	0,0	20,5	15,2	16,1	13,5	X = 13.87 df = 9 p = .127
250+ (Large)	0,0	5,1	9,1	3,2	4,1	
Total	100	100	100	100	100	
N. of respondents	36	39	33	62	170	

Table 6.19 Share of University Graduates in Total Employment of the Firms

Proportion of Uni. Grd.	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Percentage (%) of Respondents					
0	47,2	20,5	33,3	33,9	33,5	
0-0,10	19,4	43,6	21,2	30,6	29,4	
0,11-0,20	13,9	23,1	30,3	17,7	20,6	
0,21-0,30	8,3	5,1	12,1	14,5	10,6	X = 20.59 df = 15 p = .151
0,31-0,40	8,3	5,1	0,0	0,0	2,9	
Above 0,40	2,8	2,6	3,0	3,2	2,9	
Total	100	100	100	100	100	
N. of respondents	36	39	33	62	170	

Table 6.19 shows the rate of university graduate employees by the firms, and about one-third of the firms do not have university graduate employees. Since the Chi-square result is found insignificant, it is hard to say a statistically significant difference between the provinces. But, as predicted, companies with no university graduates are mostly located in Van, the least innovative province and almost half of the companies have no university graduates.

Entrepreneurs were also asked if they were hiring engineers. Findings showed that more than half of the firms have employed at least one engineer. As presented in Table 6.20, the results of the Chi-square test rejected the null hypothesis, meaning that there is a statistically significant difference in hiring engineer between the provinces. As shown in the table, the rate of the firms that hiring at least one engineer is the highest in Adana and Elazığ, while the lowest in Van. This result is in fact an important indicator of why Adana is more innovative, and Van is less innovative.

Table 6.20 Whether the Firms Employ at least an Engineer

Having an Engineer	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Percentage (%) of Respondents					
No	63,9	35,9	48,5	35,5	44,1	X = 8.91
Yes	36,1	64,1	51,5	64,5	55,9	df = 3
Total	100	100	100	100	100	p = .031
N. of respondents	36	39	33	62	170	

Supports/Incentives Usage

This section provides information about the supports or incentives that entrepreneurs get from institutions or individuals. Table 6.21 presents figures concerning the support sources firms applied during their establishment, R&D and growth/enlargement periods.

In the first part of the table, the responses regarding whether the firms received support from any government institution in these three periods were given. About 90 per cent of the firms declared that they did not receive any support from any government agency during the establishment phase.

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On the other hand, it is observed that the tendency of using state supports increased especially during the innovation activities (R&D) period. As the Chi-square test is found significant at 0.011, there are statistically significant differences between the provinces using state supports for R&D and innovation activities. For instance, more than half of the companies in Elazığ declared to apply for state supports for R&D activities, whereas in Adana, only about 26 per cent of the firms benefited from these supports. However, many firms suggested not receiving any government support during the enlarging periods.

In terms of the private sector, no statistically significant difference was found between the provinces during the establishment and enlargement stages, while a significant difference was found for the R&D period. More than 40 per cent of the firms in Bolu declared to benefiting from private sector institutions to obtain bank loans, leasing, factoring or venture capital in the R&D period, while only 3 per cent of the firms located in Van resorted to such resources. The low innovation and capital capacities of the firms in Van prevent them from using such resources more.

Meanwhile, in all provinces, no firm has received any financial support from any non-governmental organization during its establishment, R&D and growth periods. Also, most of the respondents indicated that they did not receive support/debt from persons for these three periods. Yet, while there is a significant difference between the provinces in terms of application for support from individuals in the R&D period, there is no significant difference for the other two periods.

The results in Table 6.22 reveals that almost one-third of the firms have not benefited from the government incentives since its establishment. The Chi-square test result indicates no statistically significant differences between the provinces in terms of using incentives. But, the rate of using incentives is higher in Van, as expected, while lower in Elazığ and Adana. It is worth noting, while Elazığ was in the 4th Region until 2017, it was included in the 6th Region. This may be the reason for the low incentive utilization rate in Elazığ, but the number of companies benefiting from

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incentives has increased in the last three years, as explained in the qualitative data analysis section.

Table 6.21 Persons/Institutions that the Firms apply for financial support during the establishment, R&D and growth periods

Periods		Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Government Institutions (KOSGEB, TUBITAK, etc.) (% of Respondents)						
Establishment Period	No	80,6	87,2	84,8	93,5	87,6	X = 3.91 df = 3 p = .271
	Yes	19,4	12,8	15,2	6,5	12,4	
R&D Period	No	69,4	43,6	54,5	74,2	62,4	X = 11.18 df = 3 p = .011
	Yes	30,6	56,4	45,5	25,8	37,6	
Enlarging Period	No	77,8	69,2	81,8	79,0	77,1	X = 1.92 df = 3 p = .589
	Yes	22,2	30,8	18,2	21,0	22,9	
	Total	100	100	100	100	100	
	Private Sector (Banks, Leasing, Venture Capital, etc.) (% of Respondents)						
Establishment Period	No	86,1	79,5	66,7	88,7	81,8	X = 7.64 df = 3 p = .054
	Yes	13,9	20,5	33,3	11,3	18,2	
R&D Period	No	97,2	64,1	57,6	75,8	74,1	X = 16.86 df = 3 p = .001
	Yes	2,8	35,9	42,4	24,2	25,9	
Enlarging Period	No	75,0	76,9	63,6	67,7	70,6	X = 2.10 df = 3 p = .552
	Yes	25,0	23,1	36,4	32,3	29,4	
	Total	100	100	100	100	100	
	NGOs (% of Respondents)						
Establishment Period	No	100,0	100,0	100,0	100,0	100,0	Not calculated.
	Yes	0,0	0,0	0,0	0,0	0,0	
R&D Period	No	100,0	100,0	100,0	100,0	100,0	Not calculated.
	Yes	0,0	0,0	0,0	0,0	0,0	
Enlarging Period	No	100,0	100,0	100,0	100,0	100,0	Not calculated.
	Yes	0,0	0,0	0,0	0,0	0,0	
	Total	100	100	100	100	100	
	Persons (Family, Parents, Friends, etc.)(% of Respondents						
Establishment Period	No	69,4	66,7	66,7	79,0	71,8	X = 2.36 df = 3 p = .451
	Yes	30,6	33,3	33,3	21,0	28,2	
R&D Period	No	97,2	69,2	72,7	80,6	80,0	X = 10.61 df = 3 p = .014
	Yes	2,8	30,8	27,3	19,4	20,0	
Enlarging Period	No	77,8	69,2	78,8	79,0	76,5	X = 1.49 df = 3 p = .683
	Yes	22,2	30,8	21,2	21,0	23,5	
	Total	100	100	100	100	100	
	N. of respondents	36	39	33	62	170	

To sum up, in this section, the demographic characteristics of entrepreneurs and companies in four provinces, which are quite different in terms of innovative entrepreneurship level, were compared.

The results show that the education levels of the entrepreneurs were higher in Bolu and Adana than in Van and Elazığ. In terms of previous work experience of entrepreneurs, almost two-thirds of the entrepreneurs continued to stay in the same sector, and this ratio was more or less the same for all provinces. The proportion of entrepreneurs who had investments elsewhere other than the current firm amounted to 25% of the total entrepreneurs. However, the tendency of entrepreneurs to invest elsewhere was higher in Elazığ than in other provinces.

Table 6.22 Whether the firms benefited from the Incentive since establishment

Incentive	Van	Elazığ	Bolu	Adana	Total	Chi-Square Value
	Percentage (%) of Respondents					
No	69,4	79,5	75,8	77,4	75,9	X = 1.17 df = 3 p = .760
Yes	30,6	20,5	24,2	22,6	24,1	
Total	100	100	100	100	100	
N. of respondents	36	39	33	62	170	

When the demographic structure of the firms was analyzed, it was observed that the number of firms established after 2000 was higher in Elazığ and Van, so the average age of firms in Bolu and Adana was higher. In fact, these statistics show that companies may have shorter survival times in the former provinces. Almost no difference was observed in the types or qualities of firms among provinces; that is, more than 95 per cent of the firms in all provinces were independent. Besides, over 80 per cent of firms were sole proprietorship or family business, while the proportion of domestic or foreign partners firms was about 15 per cent. While no foreign partner companies were found in Elazig and Van, more than 6 per cent of the companies interviewed in Bolu and Adana had foreign partners.

When the financial structures of the firms were compared, it was determined that almost 90% of the firms were founded with only equity capital. While there were no

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companies established in Elazig and Van by borrowing only bank loans or debts from individuals, 6% of the firms in Adana and Bolu were established using only one of these two sources. Similarly, no companies were established with 100 percent foreign capital in the former provinces, whereas the ratio in Adana and Bolu was 5 and 6 percent, respectively. On the other hand, when the annual turnover of the firms was compared, it was found that the firms in Van had lower turnovers than those in other provinces.

In terms of human resources, it was observed that all of the companies interviewed in Van were micro (0-9 employees) or small (10-49 employees), while approximately 20% of the companies in other provinces were medium ((50-249 employees)) or large-scale (+250 employees). On the other hand, almost half of the companies in Van did not have university graduate employee, but the provinces with the highest rate of university graduate employees were Adana and Bolu. Similarly, the rate of engineer employment was the lowest in Van, while the highest in Adana. These results indicate that firms in Adana have higher human capital capacity than those in other provinces, especially in Van.

When a comparison was made in the context of supports received from government institutions, the private sector, NGOs or individuals, it was recognized that the majority of firms in four provinces did not receive any supports from any of these sources during the establishment period. However, firms applied to any of these sources, especially in R&D and enlarging periods. While the number of companies that declared receiving support from the private sector or individuals during these two periods was at least in Van, this rate was highest in Elazığ and Bolu.

6.1.3   Results of the Multivariate and Univariate Analysis of Variance (MANOVA and ANOVA)

To test the main hypothesis and sub-hypotheses, multivariate analysis of variance (or MANOVA) was employed. MANOVA is designed to show the effect of more

than one dependent variable (outcome) on one or several categorical independent variables simultaneously (Field, 2013). In that sense, MAVOVA is defined as the extended version of ANOVA, which is used when there is only one dependent variable. Therefore, the general assumptions of ANOVA are valid for MANOVA. Before starting the analysis, the following three assumptions proposed by Field (2013) were tested: independence of observation, normality and homogeneity of variance. Since only one participant has the answer in each cell, the assumption that the observations are independent was fulfilled. For the normality test, the Skewness and Kurtisos distributions of the variables were examined, and since no dependent variable exceeds the -/+ 2 limits, the data was assumed to have a normal distribution. To test the last assumption, the homogeneity of variance, the results of Levene's test were examined. As a rule of thumb, if the significance level is less than 0.05, the null hypothesis of equal variances is rejected, meaning that the population variances are not equal. In this study, the result of Levene's test was less than 0.05 significance level, and therefore the assumption of homogeneity of variances was violated. However, this does not mean that we should stop the analysis because there are Post Hoc options provide multiple comparisons for observed means, which can be used if this result occurs in SPSS. Field (2013) has pointed out that the Games-Howell procedure should be used if the sample sizes are uneven and there is no doubt that population variances are equal. Following this recommendation, Games-Howell was chosen as the Post Hoc method to reveal how dependent variables differ between groups of the independent variable in this study.

Apart from these, the homogeneity of a variance-covariance matrix, valid only for MANOVA, was checked. This assumption was tested using Box's M test of equality of covariance. As suggested by Field (2013), the result of this test should be insignificant at a 0.05 significance level. This assumption will be violated if the result of this test is less than 0.05 significance level. Therefore, Field (2013) has suggested that when reporting MANOVA results, Pillai's Trace values should be reported instead of Wilks' Lambda values. As a result of the three MANOVAs performed for

the three dimensions of institutions, Box's M results were found below the significance level of 0.05; therefore, Pillai's Trace values were reported in this study.

In the continuation of this section, we will try to reveal how the three dimensions of institutions differ across the cases/provinces using MANOVA. MANOVA results show whether there are differences between the provinces as a result of the interaction of all dependent variables. However, to understand how dependent variables differ by provinces, variance analysis (ANOVA), a univariate test statistic, was conducted for each dependent variable. Field (2013) strongly recommends the use of ANOVA and Discriminant Function Analysis after MANOVA results.

In the previous section, 21 variables related to the three dimensions of institutions were identified using factor analysis. While six variables try to measure the effect of the regulative dimension of institutions on the level of innovative entrepreneurship, nine variables reveal the impact of the normative dimension, and six variables show the impact of the culture-cognitive dimension. Accordingly, subsequent sub-sections will deal with how variables representing the three dimensions of institutions differ across provinces with different levels of innovative entrepreneurship.

6.1.3.1 Regulative Dimension's MANOVA and ANOVA Results

In the survey questionnaire, 33 items were used to measure the effectiveness of the regulative dimension on the level of innovative entrepreneurial activities. Then, using factor analysis, these 33 items were distributed at different loadings to produce six factors. This section tried to demonstrate how the six factors derived from the 33 items differ according to provinces with different innovative entrepreneurship levels, first using MANOVA and then ANOVA. Our central hypothesis here is that *"although the laws, rules and regulations applied in the country contain roughly the same obligations for all provinces, there may be significant differences in their implementation among provinces. That's why the level of innovative entrepreneurship is expected to be higher in the provinces that produce and*

implement policies suitable for entrepreneurship and support the development of innovation activities. The opposite is also true". Besides, *"since the investments made in the provinces are supported at different rates in the new incentive system implemented in the country, that is, investments in less developed provinces are supported at higher ratios compared to more developed provinces, it is expected that the effect of the government supports and incentives on innovative entrepreneurial activities differ across the provinces"*. The last hypothesis is that *"as the availability and accessibility of financial resources are a key tool for entrepreneurs to achieve their goals, innovative entrepreneurship activities are expected to be at a higher level in provinces where financial resources are abundant and easy to access"*.

The results of the MANOVA reveals that the regulative dimension of institutions had highly significant effect in determining provinces with different innovative entrepreneurship levels, Pillai's Trace (V) = 0.48, F (18, 489) = 5.23 $p < .001$, $\eta_P^2 =$ .16. As illustrated in Table 6.23, independent variables explained 16 per cent of variance among dependent variables. In other words, the differences between provinces explained 16 per cent of the variance in the regulative dimension. ANOVA results given below clearly show how variables measuring regulative dimension differ by provinces.

Table 6.23 Results of MANOVA and ANOVA for the Regulative Dimension across the Cases

	Value	F	Hyp.df/Er.df	Sig.	Partial Eta Sq.	Obs. P.
MANOVA						
Pillai's Trace (V)	0,48	**5,23*****	18/489	0,000	0,161	1,000
Dependent V.		**ANOVA**				
Supportive government bodies.		1,37	3/166	0,253	0,024	0,360
Advantageous government incentives and supports.		**5,57*****	3/166	0,001	0,091	0,939
Fair business environment.		**3,92****	3/166	0,010	0,066	0,822
Well-functioning bureaucratic procedures.		2,44	3/166	0,066	0,042	0,599
Accessible financial resources.		**14,24*****	3/166	0,000	0,205	1,000
Supportive local organizations.		2,40	3/166	0,070	0,042	0,591

Notes: ***: p < 0.001, **: p < 0.01, *: p < 0.05 (two-tailed test).

As shown in Table 6.23, among six factors representing regulative dimension, three of them are 'advantageous government incentives and supports'; 'fair business environment'; and 'accessible financial resources' significantly differed across the provinces. In contrast, the remaining three factors, which are 'supportive government bodies', 'well-functioning bureaucratic procedures' and 'supportive local organizations', did not differ significantly by province. Appendix Table 6.2A illustrating the multiple comparisons using Games-Howell procedures reveals how these six factors differentiate by province.

As indicated in Appendix Table 6.2A, there are no significant differences between the provinces regarding supportive government bodies, local organizations and bureaucratic procedures. The findings show no significant difference in the attitudes of central and local government bodies towards entrepreneurs by provinces. As suggested before, bureaucratic procedures still constitute a constraint for entrepreneurs to start an innovative activity in all regions. According to the literature, burdensome or excessive regulations encountered in the implementation of bureaucratic processes, and the cost of the uncertainties accompanying them, are essential factors that discourage entrepreneurs and prevent them from being more innovative (Veciana and Urbano, 2008; Elert et al., 2017; Audretsch and Belitski, 2017). Further, it is argued that high levels of bureaucratic inefficiency promote the informal economy and corruption (de Soto, 1990). Similarly, weak supports from regulative institutions may lead to unproductive entrepreneurship (Baumol, 1990).

On the contrary, there are significant differences between the provinces in terms of benefiting from 'the advantageous of the state supports and incentives', such that Van and Elazığ had a significantly higher average than Bolu. According to the law numbered 5084, a new incentive system came into force in 2012. While the investments to be made in Van and Elazığ are evaluated within the scope of 6th Region incentives, the investments in Bolu and Adana will be evaluated within the scope of the 2nd Region incentives. In other words, investments in Adana and Bolu will receive less support than these two provinces. Therefore, the participants in Adana and Bolu clearly stated that they were quite uncomfortable with the last

incentive system implemented in the country (see qualitative results). In parallel to this, the findings reveal that Van and Elazığ had a higher average than Adana, but the difference between them was not statistically significant. In the literature, it is increasingly emphasized that the state should develop the necessary support policies such as funding support, insurance premium support, tax exemption and the like for the development of entrepreneurship (Obaji and Olugu, 2014), but, while doing so, the state should pay attention to competition between provinces and take into account the long-term effects of such practices. As in this study, Adana and Bolu have been adversely affected by the incentive and support systems implemented since 2012.

In the context of 'the fair business environment', Bolu, the province where the level of entrepreneurship and the share of the high-tech sectors are high, but the level of innovativeness is low, significantly and positively differentiated from Van, the province with the lowest level of innovativeness. This result shows that, compared to other provinces, Bolu fights more against unfair competition and the informal economy and gives entrepreneurs more equal chances in participating in public tenders. Parallel with this, many researchers define the protection of property rights, fair competition and the fight against the informal economy as regulatory institutional features that often trigger innovation and thus economic growth (North, 1990; De Soto, 2000; Estrin and Mickiewicz, 2010; Raza et al., 2018).

According to the results, Adana, the province with the highest level of innovative entrepreneurship, had the easiest 'access to financial resources', which supports the study's hypothesis. These results reveal that Adana is more advantageous than other provinces in accessing equity, bank loans and various financial resources such as angel investors and venture capital. In the literature, the ease or difficulty of accessing financial resources has been one of the critical institutional determinants for entrepreneurs to start a new business or engage in an innovative activity (Engelschiøn, 2014; Khobdeh, 2017). Several studies have argued that access to financial resources should be facilitated by creating instruments such as credit guarantee systems, low-interest loans and investment financing to encourage entrepreneurship (Alvarez and Urbano, 2012; Fuentelsaz et al., 2015; He and Tian,

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2020). In other words, the higher the access to financial resources, the higher the level of innovative entrepreneurial activity.

To sum up, there were statistically significant differences between provinces regarding the use and implementation of 'government supports and incentives', providing 'a fair business environment' and 'access to financial resources', while no significant differences were found in terms of the approaches of 'central and local government bodies' and 'bureaucratic procedures'. All these results strongly support the thesis's hypotheses and consistent with the qualitative data analysis results.

6.1.3.2   Normative Dimension's MANOVA and ANOVA Results

In this section, we aimed to show the association between the normative dimension of institutions and the level of entrepreneurship. The main hypothesis is that *"provinces with culture, tradition, values, norms and belief system that support and adopt entrepreneurship, creativity and innovation are expected to have higher levels of innovative entrepreneurship"*. Besides, it is also expected *"diversity and tolerance are widely accepted as crucial determinants of creativity in a society, so it is hypothesized that the higher the level of tolerance and openness to new and different ideas in a province, the higher the level of innovative entrepreneurship in that province"*.

To measure the effectiveness of the normative dimension on the innovative entrepreneurship levels of the provinces, 30 items were used in the survey questionnaires. As described in detail above, we tried to measure the normative dimension under three subheadings: collective perception and values; demographic, social and economic opportunities and potentials; and regional/political locational opportunities and potentials. Using factor analysis, a total of 9 factors were obtained from these subheadings. To determine whether these normative factors differ between provinces with different levels of innovative entrepreneurship, one-way MANOVA was carried out.

One-way MANOVA results clearly show that provinces with different levels of innovation have a statistically significant effect on the normative dimension of institutions (see Table 6.24), Pillai's Trace (V) = 0.99, F (9, 158) = 756.29 $p < .001$, η_p^2 = .98. These results reveal that 97.7 per cent of the normative dimension variance is accounted for by the differences between the provinces with distinctive, innovative entrepreneurship levels. The results also show a very high power (1) that predicts the strength of the association among different entrepreneurship levels and dependent variables representing the normative dimension. Hence, these results suggest that provinces with a high and low level of innovative entrepreneurship differ significantly in terms of the normative dimension of institutions, including norms, values, traditions, expectations, beliefs, etc. So these results strongly support the main hypotheses regarding the normative dimension.

Table 6.24 Results of MANOVA and ANOVA for the Normative Dimension across the Cases

	Value	F	Hyp.df/Er.df	Sig.	Partial Eta Sq.	Obs. P.
			MANOVA			
Pillai's Trace (V)	0,99	**756,29***	9/158	0,000	0,977	1,000
Dependent V.			**ANOVA**			
A collaborative society.		**19,74***	3/166	0,000	0,263	1,000
Openness to new ideas and information.		**11,85***	3/166	0,000	0,176	1,000
Diversity and tolerance.		**15,97***	3/166	0,000	0,224	1,000
No fear of failure.		**7,44***	3/166	0,000	0,118	0,984
Income effect.		**14,09***	3/166	0,000	0,203	1,000
The level of education and urbanization.		**11,22***	3/166	0,000	0,169	0,999
Strategic location/ Having historically and geographically critical strategic position.		**20,09***	3/166	0,000	0,266	1,000
Proximity to the market and raw materials.		**24,09***	3/166	0,000	0,303	1,000
Supportive political environment.		**4,96***	3/166	0,000	0,082	0,908

Notes: ***: p < 0.001, **: p < 0.01, *: p < 0.05 (two-tailed test).

To understand how provinces with different innovative entrepreneurship levels differ according to the factors measuring the normative dimension, one-way ANOVA was performed for each factor. The examination of ANOVA results reveals that all

factors representing the normative dimension differ significantly between the provinces (see Table 6.24).

As shown in Appendix Table 6.2B, multiple comparisons were made using the Games-Howell Post Hoc method to understand how each factor varies by province.

As illustrated in the table, Adana, the province with the highest levels of innovativeness, had a significantly higher 'collaborative society' average than all other provinces. This result indicates that Adana is more likely to have a collaboration than the other provinces. This result is strongly consistent with the literature suggesting that innovation spread through social networks and collaboration based on mutual personal interests and trust critical for the formation and commercialization of innovative entrepreneurial activities (Davidsson and Honig, 2003; Akçomak and ter Weel, 2006; Neira et al., 2017). Similarly, Khan et al. (2017) argued that innovation activities would increase further in environments where norms of respect, trust, mutual help and cooperation prevail.

Besides, in terms of 'openness to new ideas and information', Adana was positively and significantly differentiated from Van and Elazığ, provinces with relatively lower innovation-oriented entrepreneurship levels. Likewise, Adana had a considerably higher level of 'diversity and tolerance' than Elazığ and Bolu. These results imply that Adana is the most open and tolerant city to social diversity, multiculturalism, innovations, changes, and new ideas. The results firmly support the qualitative findings: Adana was defined as a city with cosmopolitan and cultural diversity, free and non-conservative thoughts, and openness and tolerance to differences. Moreover, these findings strongly confirm the arguments in the literature and the hypothesis of the thesis. Florida (2002) indicates that tolerance and openness refer low entry barriers, contributing to the talent attraction of cities or regions. Recent empirical research affirms this approach such that tolerance and openness were found to positively contribute to technological advancements and entrepreneurship and innovation activities (Audretsch et al., 2010; Qian et al., 2013; Pathak and Muralidharan, 2016). For instance, Gick and Grau (2018) have found a positive

association between cultural diversity and innovation. Therefore, the greater the level of tolerance and openness to diversity, the higher the rate of innovative entrepreneurial activity.

On the other hand, Bolu was negatively and significantly differentiated from other provinces regarding 'no fear of failure'. In other words, these results suggest that Bolu is the city where the saving culture and fears of failure of individuals prevent innovation activities the most. In that sense, Urbano and Alvarez (2014) suggest that fear of failure has negatively affected the tendency to become an entrepreneur. In addition, these findings confirm qualitative results. That is to say, the fear of failure, the habit of making money from bank interest, and the culture of saving money were significant socio-cultural features mentioned most about Bolu.

Likewise, compared to other provinces, the 'income effect' seems to hinder innovation activities more in Bolu. In other words, the income from agriculture and livestock or other sectors and the wealth of society were defined as a prohibiting factor mostly by participants in Bolu. However, no significant difference was found in terms of wealth and income level factors among other provinces. All these results refer that there may be an inverse relationship between income level and innovative entrepreneurship level because people's higher additional income may prevent them from engaging in an innovative activity to struggle with difficulties or uncertainties.

Furthermore, the results illustrate that Van had a significantly lower 'education and urbanization level' than other provinces. On the contrary, Adana, the most innovative province, was the city with the highest education and urbanization level.

In fact, these results support the findings in the literature, meaning that the higher education level is widely recognized as an essential tool for discovering new opportunities and transforming them into economic values (van der Zwan et al., 2013). Similarly, several researchers suggest that metropolitan and urban environments encourage firm formation by providing more appropriate incubation conditions than rural and less dense areas (Fritsch and Schroeter, 2011).

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The remaining three factors represent 'the regional/political position' that emerges as a sub-dimension of the normative dimension. In this context, Adana was separated positively and significantly from other provinces in terms of 'strategic location'. This result indicates that Adana may have a more advantageous position in terms of historical background/accumulation, geographical location, climate conditions, cost advantages, as well as being a safe place than other provinces. These results strongly support the qualitative findings that demonstrate these characteristics of Adana, such as being an attractive location for investments, having advantageous geography and location, having appropriate climate and living conditions, and being an essential place in the past. On the contrary, Van had the worst score, portrayed with negative features during qualitative research, such as the security issue, unpredictable future, low competitiveness and geographical barriers. These results are highly consistent with the literature that widely accepts history and geography as critical factors of economic development and growth (Baumol, 1990; Acemoglu et al., 2004).

As expected, Van and Elazığ, provinces with relatively lower high-tech or innovative entrepreneurship, had significantly lower 'proximity to the market and raw materials' than Adana and Bolu, provinces with relatively higher high-tech or innovative entrepreneurship. High transportation costs and being away from raw materials and the market were defined as the critical obstacles against innovative entrepreneurship mostly by the participants in Van and Elazığ. This result affirms qualitative findings where Adana stood out as the most accessible province to raw materials and the market, while Van came fore front with high transportation costs and geographical barriers.

Lastly, Van had a significantly weaker 'supportive political environment' than Bolu and Adana. As indicated in the qualitative data analysis section, the lack of political figures representing Van and the current political conflicts in the city played an essential role in this outcome. In other words, disagreements between the AKP and HDP in Van cause the city to experience constant instability in the political sense. On the other hand, Bolu was seen as the most politically potent province, followed by Adana and Elazığ.

In short, the findings strongly support the hypotheses and qualitative study results of the thesis as well as the arguments in the literature. As expected, all of the normative factors, playing critical roles in determining the innovative entrepreneurship levels of the provinces, significantly differentiated among the provinces. In particular, the differences between Adana and Van have been the crucial point of the thesis. While a socio-cultural structure that supports innovative entrepreneurship stood out in Adana, Van was mostly portrayed with the norms, values, beliefs, and demographic, economic, and political features that hinder innovation activities.

6.1.3.3   Culture-cognitive Dimension's MANOVA and ANOVA Results

This section aims to provide how the region-specific culture-cognitive dimension of institutions explain the difference between the provinces with different innovative entrepreneurship levels. It is expected that *"the level of innovative entrepreneurship will be higher in the provinces where entrepreneurial knowledge, skills and experience are more widespread and the risk-taking and uncertainty bearing is higher."* Also, *"innovative entrepreneurship levels are expected to be higher in provinces with strong networks, characterized by a high level of trust, knowledge sharing and collaboration/cooperation."* Further, *"the entrepreneurial culture and role models play a key role in directing individuals to new enterprises. For these reasons, innovative entrepreneurship level is expected to be higher in cities where the entrepreneurship culture is high and successful entrepreneurs are accepted as role models"*.

To test all hypotheses and measure the impact of culture-cognitive dimension on the level of innovative entrepreneurial activity, 24 items were included in survey questionnaires. As a result of factor analysis, these items were distributed to factors with different loadings to create six factors, as shown in Table 6.25. One-way MANOVA was carried out to demonstrate how these factors differ across the provinces with different innovative entrepreneurship levels.

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MANOVA results suggest that provinces having different innovative entrepreneurship levels have a statistically significant effect on dependent variables representing the culture-cognitive dimension, Pillai's Trace (V) = 0.50, F (18/489) = 5.48 $p < .001$, $\eta_p^2 = .17$. This result means that 17 per cent of variance was explained by these six factors measuring the culture-cognitive dimension. Moreover, the result showed that the strength of the relationship between the categories of the independent variable and these factors is quite high (>.90). In other words, this result implies that provinces with different innovative entrepreneurship levels are highly likely different in terms of the culture-cognitive dimension.

To understand these differences between the provinces, a one-way ANOVA was performed, separately, for each factor. As illustrated in Table 6.25, all factors representing the culture-cognitive dimension differ highly significantly between the provinces. The Games-Howell Post-Hoc procedure was adopted to demonstrate how the factors change according to the innovation levels of the regions. Appendix Table 6.2C clearly shows how each factor differs by provinces.

Table 6.25 Results of MANOVA and ANOVA for the Culture-cognitive Dimension across the Cases

	Value	F	Hyp.df/Er.df	Sig.	Partial Eta Sq.	Obs. P.
			MANOVA			
Pillai's Trace (V)	0,50	**5,48*****	18/489	0,000	0,168	1,000
Dependent V.			ANOVA			
Networks among entrepreneurs.		**9,85*****	3/166	0,000	0,151	0,998
Institutionalization and innovation capacity.		**9,42*****	3/166	0,000	0,145	0,997
Individual risk-taking and uncertainty-bearing tendency.		**17,17*****	3/166	0,000	0,237	1,000
Dissemination of the entrepreneurship culture (Media Impact).		**5,19****	3/166	0,002	0,086	0,921
Entrepreneurial skills, knowledge and experience.		**8,18*****	3/166	0,000	0,129	0,991
Role models.		**8,07*****	3/166	0,000	0,127	0,990

The Post Hoc results show that Adana had significantly greater 'networks' than all other provinces, as predicted. This result indicates that the culture of solidarity, trust

level, knowledge/information sharing and cooperation are more likely high among entrepreneurs in Adana, the province with the highest innovation-oriented entrepreneurial activities, compared to other provinces. This result also means that entrepreneurs in Adana may have more robust local, national and international networks. The results also suggest the literature indicating that networks referring to trust and cooperation between entrepreneurs have a crucial influence on innovative entrepreneurship activities by lowering transaction costs and facilitating knowledge sharing (Fukuyama, 1995; Akcomak and ter Weel, 2006; Leyden and Link, 2015). Networks also enable entrepreneurs to access various resources, both within the group and beyond, thereby paving the way for them to be nurtured by rich and diverse sources of information and finance (Lee and Law, 2016).

A similar result has emerged in' the institutionalization and innovation capacity' of companies. Adana, the most innovative province, was distinguished positively and significantly from other regions concerning institutional capacity. However, this should not mean that the level of institutionalization and innovation of firms in Adana is quite high, instead in the qualitative data results, it was found that Adana shared a fate similar to other provinces; as in other provinces, most of the firms here were family businesses and managed by one person, so their institutional, technological, R&D and innovation capacities were limited. On the other hand, Van, the least innovative province, had the lowest score in terms of institutionalization and innovation capacity, as expected. These results confirm and support both arguments in the literature, hypotheses of the thesis and qualitative study results. For instance, in a survey conducted among SMEs in the southeast of Turkey, Demir and Sezgin (2014) found that SMEs are largely aware of the necessity to create a kind of managerial structure for the survival of firms, but the first generation is quite cautious about transferring administrative responsibilities to the younger and more professional generation working in the firm. Several researchers suggest that although some basic institutionalization practices, such as having an organizational chart and job descriptions, and preparing strategic plans, are quickly adopted and implemented in family businesses where the first and second generations work

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together in Turkey, many firms have been weak in implementing later stage policies in connection with governance structures such as defining successors, preparing a succession plan and implementing an effective family charter (Peksaygılı and Tutan 2015).

Besides, the results reveal that individuals in Adana had significantly greater 'risk-taking and uncertainty-bearing tendency' than other provinces, which is highly consistent with the empirical and theoretical literature of entrepreneurship. Frank Knight (1921) identified the entrepreneur as a person who takes risks and bears uncertainties. In this sense, empirical studies found that risk-tolerant people are more likely to start a business than those who avoid the risk (Grilo and Thurik, 2005; Segal et al., 2005). On the other hand, as suggested in the qualitative results section, the participants in Bolu were the group with the highest risk and uncertainty aversion tendency. The reason for this, as mentioned above, is the higher additional income and the wealth of the people of Bolu. As expected, Van was the second province with the lowest risk-taking tendency. These results have a high level of consistency with the hypothesis of the study, suggesting that the higher the risk-taking and uncertainty-bearing tendency, the greater the level of innovative activity.

In terms of 'dissemination of the entrepreneurship culture or media effect', Van, the province with the lowest innovative entrepreneurship, was significantly and negatively differentiated from other provinces. The findings imply that to disseminate the entrepreneurship culture and promote innovative entrepreneurship activities, there are fewer social events and contests, inadequate and low-quality education/training at the university and/or other educational facilities, as well as less attention in the media and other broadcast organs in Van, compared to other provinces. According to several researchers, media and education facilities are crucial instruments in spreading entrepreneurship culture because they increase the awareness of and ensure a positive attitude towards entrepreneurship in the society (Verheul et al., 2002; Urbano and Turró, 2013). On the contrary, as the most innovative and entrepreneurial city, Adana stood out as the city where the entrepreneurial culture is most widespread. These results strongly support one of the

main hypotheses of the thesis, the stronger the media and education system supporting the entrepreneurial culture, the higher the level of innovative entrepreneurship.

The participants were also asked about the skills, knowledge and experience of the entrepreneurs in that province. ANOVA results revealed that entrepreneurs in Adana are more likely talented, knowledgeable and experienced than those in other provinces. These results also imply that most of the entrepreneurs in Adana know the entrepreneurs working in that sector before starting a new job, or they have knowledge, skills and experience about that business, or many people in their family are entrepreneurs.

Huggins and Williams (2011) suggest that a sustainable culture of entrepreneurship can be created in regions where entrepreneurship is valuable, and entrepreneurs are seen as role models. Therefore, in this study, participants were asked whether entrepreneurs are seen as role models to learn about the entrepreneurship perceptions of individuals. ANOVA results suggested that individuals in Adana and Van were significantly more inclined to give more importance to entrepreneurship and consider entrepreneurship as role models than those in Elazığ and Bolu. Although there was no significant difference between Adana and Van, the former had a higher average than the latter. These results also support the main argument in the literature, the findings in the qualitative data, and the study's hypothesis, suggesting that the more the role models, the higher the level of innovative entrepreneurship.

To sum up, the findings illustrated a strong consistency with the qualitative part and the hypotheses of the thesis. The results also showed that in province with the highest innovative entrepreneurship level, networks among entrepreneurs are stronger, institutionalization and innovation capacities of the firms are higher, individuals are more likely to take risks, entrepreneurship culture, skills, knowledge and experiences are more prevalent and entrepreneurship is considered as a valuable career choice.

6.1.4   Results of the Discriminant Function Analysis (DIF)

As recommended by Field (2013), the MANOVA was followed up with Discriminant Function Analysis (DFA). The purpose of the DFA was to identify the variables measuring the dimensions of institutions that would discriminate between the provinces with different innovative entrepreneurship levels.

The DFA has the same assumptions as MANOVA. As shown above, assumptions of normality, outlier, multicollinearity, and the independence of observations were met, but the homogeneity of a variance-covariance assumption was violated. This assumption is tested by using Box's M, comparing the equality of log determinants of the groups/categories in the dependent variable. Since the p-value of the test was found less than 0.05 point of the significant level, the null hypothesis, which is the variance-covariance matrices of the groups are equal in the population, was rejected. Several researchers have claimed that this assumption is overly liberal, that is, very sensitive in case where groups numbers are unequal (Tabachnick and Fidell, 2013; Field, 2013). Therefore, violating this assumption would not be a serious problem if there was a sufficient sample size (such as more than 100 observations and the number of observations should be at least five times the total number of independent variables). However, in this study, the sample size was 170, and the ratio of the sample to variable was 9.44 (3 non-significant variables removed from the DFA analysis.), so violating this assumption did not pose a significant problem for this study. We also saw this in the DFA results, such that since the Box's M test was significant, we conducted the DFA by selecting both separate group and within-group methods, but the correct classification rate was higher in within-group (80.6%) than the separate group analysis (78.8%). That's why; the DFA results were interpreted based on within-group analysis. Usually, separate group analysis results should be reported if this difference was more than 2.5%.

To show how the factors representing the regulative, normative and culture-cognitive dimensions of institutions discriminate the provinces with different levels of innovative entrepreneurship, a two-stage DFA was applied:

- In the first stage, the study aims to determine the institutional factors statistically significant in distinguishing these four provinces using the Test of Equality Group Means (TEGM).

- In the second stage, after selecting only significant independent variables in the previous stage, the DFA was used to classify individuals into predetermined groups. Thus, it can be revealed how previously determined institutional factors play a role in the separation of provinces with different innovation capacities.

Table 6.26 Tests of Equality of Group Means

Dimension of institutions	Variables	Wilks' Lambda	F	df1	df2	Sig.
Regulative Dimension	Supportive government bodies.	0,976	1,372	3	166	0,253
	Advantageous government incentives and supports.	0,909	5,566	3	166	0,001
	Fair business environment.	0,934	3,917	3	166	0,010
	Well-functioning bureaucratic procedures.	0,958	2,438	3	166	0,066
	Accessible financial resources.	0,795	14,236	3	166	0,000
	Supportive local organisations.	0,958	2,397	3	166	0,070
Normative Dimension	A collaborative society.	0,737	19,738	3	166	0,000
	Openness to new ideas and information.	0,824	11,851	3	166	0,000
	Diversity and tolerance.	0,776	15,972	3	166	0,000
	No fear of failure.	0,882	7,435	3	166	0,000
	Income effect.	0,797	14,093	3	166	0,000
	The level of education and urbanization.	0,831	11,219	3	166	0,000
	Strategic location/ Having historically and geographically critical strategic position.	0,734	20,090	3	166	0,000
	Proximity to the market and raw materials.	0,697	24,085	3	166	0,000
	Supportive political environment.	0,918	4,961	3	166	0,003
Culture-cognitive Dimension	Networks among entrepreneurs.	0,849	9,854	3	166	0,000
	Institutionalization and innovation capacity.	0,855	9,417	3	166	0,000
	Individual risk-taking and uncertainty-bearing tendency.	0,763	17,168	3	166	0,000
	Dissemination of the entrepreneurship culture (Media Impact)	0,914	5,191	3	166	0,002
	Entrepreneurial skills. knowledge, experience.	0,871	8,176	3	166	0,000
	Role models.	0,873	8,073	3	166	0,000

Institutional factors discriminating the cases

In the first stage, the TEGM shows whether the contribution of each variable in the discriminatory function is significant. In other words, this test helps to identify/eliminate independent variables that do not contribute to the discriminations of the dependent variable groups. Accordingly, among the factors that constitute the regulative dimension, only three factors (such as 'supportive government bodies', 'well-functioning bureaucratic procedures' and 'supportive local organisations') were found statistically non-significant (see Table 6.26). These results mean that these three factors did not differ significantly between cases. In other words, these factors had similar effects on innovative entrepreneurship level (see ANOVA results above) in all cases. On the other hand, the remaining factors measuring the three dimensions of institutions played a significant role in differentiating the cases.

Explaining the variation among the cases

In the second stage, only variables having a significant contribution to discriminatory function were used. The main goal at this stage was to identify the institutional factors that contributed the most to distinguish provinces with different levels of innovative entrepreneurship.

The results of the DFA demonstrate that all three functions are statistically significant. The first function (*Wilks' λ* = .15, χ^2 (54) = 296.02, p < .001) with an R^2-canonical = .573, explained 48.30% of the total variance, the second function (*Wilks' λ* = .36, χ^2 (34) = 161.71, p < .001) with an R^2-canonical = .529, explained 40.5% of total variance, and the third function (*Wilks' λ* = .76, χ^2 (16) = 42.72, p < .001) with an R^2-canonical = .237, explained 11.2% of total variance.

The results also reveal that 80.6% of the participants were correctly classified into the cases, such that 77.8% of participants in Van, 71.8% of participants in Elazığ, 87.9% of participants in Bolu, and 83.9% of participants in Adana were correctly classified into their groups. Such a high correct classification implies that the factors

representing the dimensions of institutions contributed well to the discriminatory function.

Table 6.27 Structure Matrix

Variables	Functions		
	1	2	3
Proximity to the market and raw materials	**-,431***	0,406	-0,054
Advantageous government incentives and supports.	**,252***	0,021	0,218
Supportive political environment.	**-,228***	0,097	0,176
Strategic location/ Having historically and geographically critical strategic position.	-0,031	**,550***	0,269
A collaborative society.	-0,137	**,543***	-0,009
Individual risk-taking and uncertainty-bearing tendency.	0,086	**,492***	0,299
Accessible financial resources.	-0,143	**,450***	-0,075
Diversity and tolerance	0,279	**,405***	-0,001
Networks among entrepreneurs.	-0,019	**,395***	-0,079
Openness to new ideas and information	-0,191	**,380***	-0,089
Institutionalization and innovation capacity.	-0,04	**,377***	0,162
Entrepreneurial skills, knowledge, experience.	-0,038	**,346***	-0,192
Income effect.	0,303	**,308***	0,284
Role models.	0,133	0,267	**-,367***
No fear of failure.	0,212	0,192	**,326***
The level of education and urbanization.	-0,269	0,264	**,296***
Dissemination of the entrepreneurship culture (Media Impact)	-0,169	0,166	**,281***
Fair business environment.	-0,198	-0,033	**,234***

Note: *Significant at 5% level, Bold indicates variables significant in different functions.

The structure matrix shown in Table 6.27 indicates that the first function was the most loaded by 'proximity to the market and raw materials', 'advantageous government incentives and supports', and 'supportive political environment'. This function is labelled as "*underdeveloped regions that are eligible for government support and incentive*". The group centroids, shown in Table 6.28, suggest this function, and thus Van, which has the lowest level of innovative entrepreneurship, seems to have the highest advantages in government supports and incentives, but disadvantages in terms of proximity to the market and raw materials and political position. On the contrary, Bolu, which is above the country average in terms of entrepreneurship and high-tech sector rates, but low in innovation capacity, has the lowest value in this function. Similarly, Adana, the most innovative province, has a negative value. These results imply that unlike Van, Bolu, and Adana may have lower advantages in terms of government support and incentives but have higher advantages in proximity to the market and raw material and political position.

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The second function taking place with the highest loadings of the factors that support the formation and development of innovative entrepreneurship and represent the three dimensions of institutions, such as 'strategic location', 'collaborative society', individual risk-taking and uncertainty-bearing tendency', 'accessible financial resources', 'diversity and tolerance', 'networks among entrepreneurs', 'openness to new ideas and information', 'institutionalization and innovation capacity', 'entrepreneurial skills, knowledge and experience' and 'income effect'. Hence, the second function can be conceptualized as "*an entrepreneur-friendly institutional setting*". According to the group centroid, this function represents Adana, which has the highest innovative entrepreneurship level. Conversely, Van, which has the lowest innovative entrepreneurship level, has the lowest value in this function, as expected. Similar to Van, Elazığ, which also has a lower innovative entrepreneurship level, has a quite negative value in this function. While these results highlight Adana as a province with supportive institutional factors, on the contrary, bring front Van and Elazığ as cities with prohibitive institutional setup for innovative entrepreneurship.

Table 6.28 Functions at Group Centroids

Cases	Functions		
	1	2	3
Van	**1,593**	**-0,774**	**-0,612**
Elazığ	0,357	-0,641	**0,935**
Bolu	**-1,948**	-0,98	-0,337
Adana	-0,113	**1,375**	-0,054

Note: Unstandardized canonical discriminant functions evaluated at group means

According to the structure matrix, the last function was the most loaded with the institutional factors such as 'role models', 'no fear of failure', 'the level of education and urbanization', 'dissemination of the entrepreneurship culture (media impact)', and 'fair business environment'. Thus, this function can be named as "*the suitable ground for the development of the entrepreneurial culture*". As shown in the group centroids table, with this function, Elazığ has the highest value, while Van has the smallest value. The most important reason for us to choose Elazığ as a case was that the level of entrepreneurship was above the country average, but the rate of high-

tech sector and innovation was below the country average. In fact, these results clearly support this situation; for instance, there are institutional factors that will support the development of entrepreneurship culture in Elazığ, but as it is seen, the absence of entrepreneurs who can be a role model may have caused the city to lag in terms of innovation activities.

As a result, after MANOVA and ANOVA, discriminant function analysis shows how institutional factors differentiate provinces with different levels of innovation. The DIF results firmly and strongly supported the essential hypothesis of this thesis. That is to say, while Van, the city with the lowest innovation capacity, was separated by institutional factors that prevent innovative entrepreneurship activities, Adana, the city with the highest innovation capacity, was discriminated by the positive loadings of the institutional factors supporting innovative entrepreneurship. All these results suggest that provinces with institutions that allow a favourable business and investment environment for entrepreneurs and embrace and tolerate different ideas, and innovative approaches are expected to have a higher level of innovative entrepreneurship. That is, institutions are matter in determining innovative entrepreneurship levels of the provinces.

6.1.5   Results of the Logistic Regression

Logistic regression is a multiple regression model[23], but it consists of a categorical dependent variable and several independent variables, which can be categorical or

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[23] In logistic regression, the probability of Y occurring is predicted with one or more independent variables (X(s)), unlike multiple regression where the value of outcome (Y) is estimated.

$$P(Y) = \frac{1}{1+e^{-(b0+b1X1i+b2Xxi+\cdots+bnXni)}}$$

continuous. The main purpose of using logistic regression is to predict which of the specified categories individuals or participants are more likely to belong with the available information at hand (Field, 2013).

In this study, the main reason for using logistic regression is to reveal how the factors that constitute the regulative, normative and culture-cognitive dimensions of institutions can predict provinces according to their innovation-oriented entrepreneurship levels. As explained in the methodology chapter, the four provinces surveyed in this study were selected according to the differentiation of innovation, high-tech sector and entrepreneurship rates by country average. Accordingly, these provinces were coded as follows in logistic regression analysis:

- *Category 1 (Van):* The province where the level of innovativeness, entrepreneurship and high-tech sectors is the lowest (the province with the lowest innovative entrepreneurship).

- *Category 2 (Elazığ):* The province where the level of entrepreneurship is high, but the innovativeness and high-tech sectors are low.

- *Category 3 (Bolu):* The province where the level of entrepreneurship and high-tech sectors is high, but innovativeness is low.

- *Category 4 (Adana):* The province where the level of innovativeness, entrepreneurship and high-tech sector is the highest (the province with the highest innovative entrepreneurship).

Since there were more than two categories, multinomial logistic regression analysis was performed for this study. As used in the previous analyses, 6 factors of the

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where P (*Y*) is the probability that Y will occur, *e* is the basis of natural logarithms, and other coefficients form a linear combination, as in multiple regression. Logistic regression has most of the linear regression assumptions and all of them were met, so we can run this analysis.

regulative dimension, 9 factors of the normative dimension and 6 factors of the culture-cognitive dimension were included in the analysis.

The overall result of the multinomial logistic regression in which Category 1 was specified as the reference category was found statistically significant, χ^2 (63) = 321.15, $p < .001$, Nagelkerke $R^2 = .91$.

As seen in Table 6.29, the last three categories were compared with the first category, respectively. In the first part, Category 2 (Elazığ) was compared with Category 1 (Van). Category 1 and 2 are compared here to reveal how to the factors that constitute the three dimensions of institutions play a critical role in the probability of selecting categories (provinces) that differ from each other in terms of entrepreneurship level.

According to the results, all factors representing the regulative dimension were not statistically significant in predicting Category 1 or Category 2. However, the odds ratios of the factors suggested that higher levels of supportive government bodies and advantageous government incentives and supports tended to identify more Category 1 (Van), whereas higher levels of the fair business environment, well-functioning bureaucratic procedures, accessible financial resource, and supportive local organizations inclined to identify more Category 2 (Elazığ). In fact, these results imply that government support and incentives do not play a significant role in having a higher entrepreneurship rate, but instead, easy access to financial resources, well-functioning bureaucratic procedures and a favourable business environment play a more critical role. These results are in line with the studies suggesting that entrepreneurship activities are more likely to occur in regions where financial resources are accessible and burdensome legal processes are mitigated (Alvarez et al., 2015; Dvouletý and Lukeš, 2017).

Among the normative factors, only two factors significantly predicted Category 1 or 2. While the 'diversity and tolerance' had a negative coefficient, 'the level of education and urbanization' had a positive coefficient, meaning that one unit increase in the former decreases the likelihood of being Category 2 by 83 per cent, while one unit increase in the latter increases the chance of being Category 2 5.30 times than

Category 1. On the other hand, all the remaining factors other than 'openness to new ideas and information' and 'no fear of failure' had positive coefficients. These results revealed that any increase in these two factors will increase the probability of choosing Category 1, which has lower entrepreneurship level, compared to Category 2. These results contrast with the literature and hypothesis of the thesis because Category 2, which has a higher entrepreneurship level, was expected to have a higher level of tolerance to diversity, new ideas, and information (Audretsch et al., 2010; Pathak and Muralidharan, 2016). However, these results support qualitative findings because 'conservative', 'social pressure' and 'resistance to diversity and lack of tolerance' were prominent normative features that prevented the formation of innovative entrepreneurship activities in Elazığ. In contrast, 'high level of education' was defined as a crucial demographic opportunity for Elazığ that might trigger entrepreneurial activity in the city.

In terms of culture-cognitive dimension factors, only 'individual risk-taking and uncertainty-bearing tendency' and 'role models' significantly predicted the categories. A unit increases in the former increases the probability of occurring Category 2 by 4.08 times compared to Category 1. In contrast, one unit increase in the latter decreases the likelihood of occurring Category 2 by 86 per cent. The main difference between the two categories is the entrepreneurship rate. This result implies that taking the risk and bearing uncertainty might be more effective than the role models in higher entrepreneurship rate. Although other variables representing the culture-cognitive dimension were not statistically significant in predicting which category would occur, two of them had negative coefficients, while the other two had positive coefficients. While 'the network among entrepreneurs' and 'the skills, knowledge and experience of entrepreneurs' reduced the probability of occurring Category 2, 'the institutionalization and innovation capacity of companies' and 'the dissemination of the entrepreneurship culture' increased the probability of occurring of this category. This result indicates that the regional level characteristics are more effective than the individual level characteristics in estimating the province (Elazığ) with a higher entrepreneurship level.

Table 6.29 The Results of the Multinomial Logistic Regression (**Category 1 vs. Category 2**)

Categ.	Dim. of ins.	Institutional Variables/Factors	B	SE	95% Confidence Interval for Exp(B)		
					Lower Bound	Odds Ratio (Exp(B))	Upper Bound
Category 2: (Elazığ)		Intercept	**1,86****	0,82			
	Regulative Dimension	Supportive government bodies.	-0,40	0,63	0,20	0,67	2,31
		Advantageous government incentives and supports.	-0,68	0,60	0,16	0,51	1,65
		Fair business environment.	0,57	0,55	0,60	1,77	5,23
		Well-functioning bureaucratic procedures.	0,59	0,51	0,67	1,80	4,85
		Accessible financial resources.	0,22	0,72	0,31	1,24	5,05
		Supportive local organisations	1,01	0,61	0,84	2,74	9,00
	Normative Dimension	A collaborative society.	0,23	0,74	0,29	1,26	5,40
		Openness to new ideas and information.	-1,05	0,66	0,10	0,35	1,27
		Diversity and tolerance.	**-1,79****	0,66	0,05	**0,17**	0,61
		No fear of failure.	-0,29	0,63	0,22	0,75	2,56
		Income effect.	0,55	0,61	0,52	1,74	5,75
		The level of education and urbanization.	**1,67***	0,73	1,26	**5,30**	22,24
		Strategic location/ Having historically and geographically critical strategic position.	1,03	0,55	0,94	2,79	8,27
		Proximity to the market and raw materials.	0,16	0,57	0,38	1,17	3,57
		Supportive political environment.	0,9	0,54	0,85	2,46	7,08
	Culture-cognitive Dimension	Networks among entrepreneurs.	-0,9	0,64	0,12	0,41	1,43
		Institutionalization and innovation capacity.	0,89	0,73	0,58	2,43	10,25
		Individual risk-taking and uncertainty-bearing tendency.	**1,41***	0,64	1,17	**4,08**	14,24
		Dissemination of the entrepreneurship culture (Media Impact)	0,96	0,56	0,87	2,62	7,91
		Entrepreneurial skills, knowledge, experience.	-0,42	0,55	0,22	0,66	1,92
		Role models.	**-1,97****	0,64	0,04	**0,14**	0,49

However, the negative contributions of the former two factors in estimating the likelihood of selecting Elazığ are not consistent with the literature, suggesting that

networks enable individuals to access rich and diverse resources, which may increase entrepreneurship opportunities of them (Dvouletý and Mareš, 2016; Audretsch and Belitski, 2017).

In the second half of the table, Bolu (Category 3), the province with high levels of entrepreneurship and high-tech sectors but low levels of innovativeness, was compared to Van (Category 1), the province having the lowest level of innovative entrepreneurship. The reason for comparing these two categories, as mentioned above, is to show how the factors that make up the three dimensions of institutions affect the probability of selecting provinces that differ from each other in terms of entrepreneurship level and high-tech sector rates. The findings revealed that among the six factors representing regulative dimension, only the 'advantageous government incentive and supports' significantly predicted the categories (Category 1 or 3) (see Table 6.29). Since the coefficient of this factor is negative, a one-unit increase in this variable reduces the likelihood of occurring Category 3 by 95 per cent. These results strongly support both qualitative research findings and the results of MANOVA and ANOVAs (see Table 6.29). During the qualitative research, most of the participants in Bolu argued that the current incentive system affected their cities quite negatively; that is, they claimed that the investments are shifting Düzce, located next to them because it has a higher incentive rate.

Among the normative factors, only 'the level of education' and 'supportive political environment' significantly and positively supported the probability of occurring Category 3, whereas 'diversity and tolerance' significantly and negatively affected. These results are similar to the results in the previous section, meaning that any increase in diversity and tolerance reduces the likelihood of occurring of Category 3, while any increase in education level and supportive political environment increase the probability of Category 3 being selected. These results partially support the qualitative study findings because some participants suggested that Bolu has an 'oppressive and exclusionary' and 'introversion / closed' socio-cultural structure. Also, its location in the west may have made Bolu more advantageous in terms of educational level and political environment than Van.

Table 6.30 continue (**Category 1 vs. Category 3**)

Categ.	Dim. of ins.	Institutional Variables/Factors	B	SE	95% Confidence Interval for Exp(B)		
					Lower Bound	Odds Ratio (Exp(B))	Upper Bound
		Intercept	-1,70	1,63			
	Regulative Dimension	Supportive government bodies.	-0,37	1,29	0,06	0,69	8,67
		Advantageous government incentives and supports.	**-2,98****	1,08	0,01	**0,05**	0,42
		Fair business environment.	1,89	1,15	0,69	6,61	63,33
		Well-functioning bureaucratic procedures.	0,83	0,89	0,40	2,29	13,12
		Accessible financial resources.	-0,56	1,20	0,05	0,57	6,05
		Supportive local organisations.	-0,27	1,11	0,09	0,76	6,73
Category 3: (Bolu)	Normative Dimension	A collaborative society.	1,68	1,26	0,45	5,38	64,10
		Openness to new ideas and information.	2,06	1,32	0,60	7,86	103,49
		Diversity and tolerance.	**-3,97****	1,33	0,00	**0,02**	0,26
		No fear of failure.	-2,43	1,27	0,01	0,09	1,08
		Income effect.	-2,03	1,23	0,01	0,13	1,45
		The level of education and urbanization.	**4,21****	1,62	2,79	**67,20**	1619,48
		Strategic location/ Having historically and geographically critical strategic position.	1,05	1,09	0,34	2,85	23,89
		Proximity to the market and raw materials.	1,51	0,94	0,73	4,55	28,47
		Supportive political environment.	**2,44****	0,94	1,82	**11,51**	72,84
	Culture-cognitive Dimension	Networks among entrepreneurs.	-0,48	1,28	0,05	0,62	7,55
		Institutionalization and innovation capacity.	-2,26	1,44	0,01	0,10	1,77
		Individual risk-taking and uncertainty-bearing tendency.	-0,16	1,16	0,09	0,85	8,37
		Dissemination of the entrepreneurship culture (Media Impact)	1,65	1,04	0,68	5,19	39,46
		Entrepreneurial skills, knowledge, experience.	-0,93	0,96	0,06	0,39	2,60
		Role models.	-0,91	1,02	0,05	0,40	2,96

On the other hand, as shown in Table 6.29, 'no fear of failure' and 'income effect' had negative coefficients, so the higher levels of these factors were negatively

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associated with Category 3 as opposed to Category 1. These results also support qualitative research results, meaning that "fear of failure" and "wealth of society" were defined as critical socio-economic factors that prevented the formation of entrepreneurial activities in Bolu. On the contrary, the remaining normative dimension factors contributed positively to the possibility of Category 3 occurring.

No factors that constitute the culture-cognitive dimension were found statistically significant in predicting Category 1 or Category 3. Interestingly, all the factors other than 'the dissemination of the entrepreneurship culture' negatively affected the possibility of Category 3 occurring. This result is consistent with the findings in ANOVA, where Bolu was found to have a significantly higher average than Van in terms of disseminating the entrepreneurship culture. The findings here also partially support qualitative research results for Bolu.

In the last part of Table 6.29, the results about how the factors that constitute the three dimensions of institutions predict Category 1 or Category 4 were presented. This section is quite an important part of testing the hypotheses of this thesis because it clearly shows how the institutional factors play a key role in predicting between Van, the province with the lowest level of innovative entrepreneurship and Adana, the province with the highest level of innovative entrepreneurship.

In predicting between the least and the most innovative provinces, among the variables representing the regulative dimension, 'government incentives and supports' played a statistically negative and meaningful role, whereas 'access to financial resources' played a positive and significant role in predicting the membership to Category 4. This result suggests that any increase in government incentives and supports decreased the likelihood of choosing Category 4 by 16 per cent, while one-point increase in access to financial resources increased the probability of selecting this category 5.34 times compared to the first category. This result is highly consistent with the findings of qualitative research where the participants in Adana reported the negative impacts of the current incentive system, while the participant in Van expressed positive opinions. Moreover, the findings

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showed that the reduction of transaction times and fees in bureaucratic procedures and the government institutions played a positive role in predicting the more innovative province (Category 4).

In terms of the normative dimension, three factors such as 'a collaborative society', 'having historically and geographically critical position' and 'supportive political environment.' significantly and positively predicted the likelihood of choosing the innovative province (Adana). Similarly, 'openness to new ideas and information' and 'proximity to market and raw materials' were other normative dimension factors that positively affected the estimation of the more innovative province. All these results strongly support both the arguments in the literature and the hypothesis of the thesis. At the same time, these results strongly confirm the qualitative research results. While Van is defined as a place where 'production and work culture' is weak and 'tribalism and micro-nationalism', 'political and ideological discrimination', 'social pressure' and 'traditionalism' prevail, on the contrary, Adana was defined as a place with 'a strong culture of production and working', 'free thinking', and openness to innovative ideas'. In contrast, 'diversity and tolerance', 'no fear of failure', 'the level of wealth and income' and 'education level' had negative coefficients, implying that any increase in these factors would decrease the likelihood of choosing of the most innovative province.

On the other side, 'dissemination of the entrepreneurship culture' and 'role models' were the two statistically significant factors of the culture-cognitive dimension that predicted the likelihood of Category 1 or 4. While any increase in the former positively supported the probability of predicting a more innovative province, a one-unit increase in the latter reduced the likelihood of choosing the more innovative city by 77%. Likewise, 'institutionalization and innovation capacity of the firms', 'individuals' risk-taking and uncertainty-bearing tendency' positively affected the likelihood of occurring Category 4, whereas 'the networks among firms' and 'the entrepreneurial skills, knowledge and experience' negatively contributed to the probability of selecting of this province.

Table 6.31 continue **(Category 1 vs. Category 4)**

Cate g.	Dim. of ins.	Institutional Variables/Factors	B	SE	Lower Bound	Odds Ratio (Exp(B))	Upper Bound
					95% Confidence Interval for Exp(B)		
		Intercept	**2,24****	0,82			
	Regulative Dimension	Supportive government bodies.	-0,17	0,79	0,18	0,84	3,93
		Advantageous government incentives and supports.	**-1,86****	0,71	0,04	**0,16**	0,63
		Fair business environment.	-1,08	0,71	0,08	0,34	1,36
		Well-functioning bureaucratic procedures.	0,78	0,62	0,64	2,17	7,38
		Accessible financial resources.	**1,68****	0,77	1,18	**5,34**	24,21
		Supportive local organisations.	0,75	0,65	0,59	2,12	7,63
Category 4: (Adana)	**Normative Dimension**	A collaborative society.	**2,18***	0,89	1,56	**8,87**	50,53
		Openness to new ideas and information.	0,66	0,82	0,38	1,93	9,75
		Diversity and tolerance.	-0,98	0,77	0,08	0,38	1,70
		No fear of failure.	-1,21	0,71	0,07	0,30	1,19
		Income effect.	-0,15	0,66	0,24	0,86	3,12
		The level of education and urbanization.	-0,11	0,83	0,17	0,89	4,58
		Strategic location/ Having historically and geographically critical strategic position.	**2,13****	0,68	2,20	**8,38**	31,83
		Proximity to the market and raw materials.	1,16	0,62	0,95	3,20	10,70
		Supportive political environment.	**1,47***	0,62	1,28	**4,34**	14,74
	Culture-cognitive Dimension	Networks among entrepreneurs.	-0,91	0,72	0,10	0,40	1,66
		Institutionalization and innovation capacity.	1,12	0,86	0,56	3,06	16,64
		Individual risk-taking and uncertainty-bearing tendency.	1,03	0,67	0,75	2,80	10,48
		Dissemination of the entrepreneurship culture (Media Impact)	**1,53***	0,67	1,24	**4,62**	17,20
		Entrepreneurial skills, knowledge, experience.	-0,58	0,60	0,17	0,56	1,82
		Role models.	**-1,46***	0,68	0,06	**0,23**	0,89

Notes: The reference category is Category 1: The province where innovation, entrepreneurship and high-tech sector is the lowest (Van). ***: $p < 0.001$, **: $p < 0.01$, *: $p < 0.05$.

These results are partly consistent with the literature because it was assumed that the innovative entrepreneurial activity level of the region would increase through the sharing of knowledge and collaboration between firms resulting from strong networks among firms (Leyden and Link, 2015; Lee and Law, 2016). However, as mentioned before (see Qualitative Results chapter), there was no strong network among companies in all other provinces, including Adana, and this probably prevented this factor from playing a positive role in the separation of the more innovative region.

As a result, factors representing the three dimensions of institutions play crucial roles in selecting the provinces in different categories. Among the factors of the regulative dimension, the government supports and incentives and access to financial resources played a significant role in differentiating provinces with different innovative entrepreneurship levels. Notably, while the former ensured the separation of regions with relatively lower innovative entrepreneurship, the latter supported the selection of provinces with higher innovation activities. On the other hand, in terms of normative dimension, having a collaborative society, historically and geographically critical strategic position, and supportive political environment played positive roles in selecting provinces with higher innovativeness. However, in the cognitive dimension, entrepreneurship culture (media impact) and role models played a significant role in differentiating provinces into different categories. While media impact contributed positively to the selection of the provinces with higher levels of innovation-oriented entrepreneurship, unexpectedly, role model had the opposite effect.

6.2   General Evaluation of the Quantitative Data

This section evaluates the findings showing how quantitative data related to the regulative, normative and culture-cognitive dimensions of institutions obtained by the survey questionnaire method differ according to four cases/provinces with different innovative entrepreneurship levels.

Regulative Dimension Findings

To measure the effect of the regulative dimension on innovative entrepreneurship, 33 items were used in the survey questionnaire based on the findings obtained from the literature and the previous qualitative research results. Then, 6 factors were retained from these items using factor analysis. Next, we used these factors to show the impact of the regulative dimension on regional innovative entrepreneurial activities.

To understand how these factors varied according to the provinces with different levels of innovative (or innovation-oriented) entrepreneurship, MANOVA and ANOVAs were performed. Then, these analyses were followed up with Discriminant Function Analysis (DFA) and Multinomial Logistic Regression to see how these factors distinguished the provinces.

Overall results showed that while 'advantageous government incentives and supports', 'fair business environment' and 'accessible financial resources' differed significantly between provinces, the remaining three factors, 'supportive government bodies', 'well-functioning bureaucratic procedures' and 'supportive local organisations.', did not vary significantly. Consistently, the three previous factors played a statistically significant role in the segregation of the provinces with different levels of innovative entrepreneurship, while the next three did not play a meaningful role. Therefore, only three statistically significant factors were used in the DFA for the separation of the provinces.

Accordingly, 'advantageous government incentives and supports' played a positive role in the discrimination of Van, the city with the lowest innovative entrepreneurship level, in DFA. Besides, according to the logistic regression result, any increase in this factor decreased the likelihood of occurring Category 4, Adana. These results, supporting the qualitative findings, reveal that government supports and incentives are more popular with less innovative provinces.

On the other hand, the 'fair business environment' found the highest in the province where entrepreneurship and high-tech sector are high, but innovation is low (in Bolu), played a positive role in the separation of Elazığ, the province where entrepreneurship is high, but innovation and high-tech sector is low, from other cities in DFA. The separation of Elazığ, which had the highest average after Bolu, from other provinces shows that in fact, weaknesses continue in Van and Adana in the context of this factor. In other words, this factor, which is a combination of items such as preventing unfair competition and informal economy and providing equal opportunities to entrepreneurs participating in public tenders, indicates that measures in this sense may be weaker in Adana and Van than in other provinces. In parallel with these results, a one-unit increase in this factor increased the probability of being Elazığ and Bolu compared to Van, while decreasing that of Adana.

On the contrary, 'accessible financial resources', which had the highest score in Adana, played a positive role in the discrimination and selection of Adana, the most innovative province, in DFA and the logistic regression analysis. This factor, which consists of items indicating that the number and type of financial resources are sufficient and accessible to support innovation activities, shows that entrepreneurs in Adana may be more advantageous in this framework. This result supports both the literature and the hypotheses and qualitative findings of the thesis.

However, 'supportive government bodies', 'well-functioning bureaucratic procedures' and 'supportive local organisations.' did not differ significantly between provinces.

Normative Dimension Findings

In order to understand and demonstrate how the normative dimension affects the level of innovative entrepreneurship, a total of 30 items obtained from the literature and qualitative study phase were included in the survey questionnaires. As a result of factor analysis, a total of 9 factors were obtained from these items.

According to MANOVA results, all these factors varied significantly among the provinces with different innovative entrepreneurship level. For instance, 'a collaborative society' was found the highest in Adana, the province with the highest innovativeness, while the lowest in Van, the province with the lowest level of innovation, entrepreneurship and high-tech sector. Similarly, this factor had a positive contribution to the separation or selection of Adana compared to other provinces in DFA or logistic regression analysis. These results mean that 'a collaborative society' positively affects the innovative entrepreneurship level. That said, the greater the level of collaboration among people or entrepreneurs in a city, the higher the levels of innovative entrepreneurship in that city.

Likewise, the 'openness to new ideas and information' and 'diversity and tolerance' positively contributed to the separation of Adana. This result shows that openness to new ideas and information and tolerance to diversity play an essential role in determining the province with a higher innovative entrepreneurship level.

While 'no fear of failure' was seen in Bolu with the lowest average, it was found in Elazığ with the highest average. Therefore, this factor played a positive role in the separation of Elazığ from other provinces in DFA. However, the 'income effect', which measures that wealth or additional income of individuals is not a factor preventing them from being innovative, had the highest average in Adana while the lowest average in Bolu, the province where entrepreneurship and high-tech sector are high, but innovation is low. Therefore, this factor distinguished Adana from other regions in DFA.

Further, 'the level of education and urbanization' had a positive contribution to the discrimination and selection of Elazığ against Van. This result implies that both education and urbanization have a positive association with entrepreneurship level. On the other hand, the 'strategic location', which had the highest average in Adana and the lowest average in Van, positively contributed to both the separation of Adana from other provinces and the likelihood of the selection of Adana compared to Van. These findings reveal that having historically and geographically critical strategic

position play a key role in enhancing the innovative entrepreneurship levels of the provinces. Similarly, 'proximity to the market and raw materials', found the highest in Adana and the lowest in Van, had a negative contribution to Van's separation among the provinces and a positive contribution in increasing the possibility of Adana to be selected compared to Van. As above, the proximity to the market and raw materials may have been an effective factor in the choice of location for innovative entrepreneurs, as it plays a role in reducing the costs of entrepreneurs. In parallel, a 'supportive political environment' played a negative role in the separation of Van from other provinces, while positively contributing to increasing the probability of choosing other provinces against Van. These results point out that the province with a supportive political environment is likely to have higher levels of entrepreneurship and innovation.

To sum up, normative factors played an essential role in determining the innovative entrepreneurship level of the provinces. The results also contain valuable clues as to which normative factor can effectively support innovative entrepreneurial activities. On the other hand, all these findings strongly supported the findings in the literature and the hypotheses of the thesis.

Culture-cognitive Dimension Findings

To measure the culture-cognitive dimension, 24 items were used in survey questionnaires, which were subsequently transformed into six factors using the PCA.

According to MANOVA results, regions with different innovative entrepreneurship levels significantly impacted all factors representing the culture-cognitive dimension. In other words, results suggest that culture-cognitive factors significantly differentiated across the provinces. For instance, 'networks among entrepreneurs' which had the highest average in Adana, but the lowest in Elazığ, significantly contributed to the discrimination of Adana from other provinces in DFA. As emphasized in the literature, networks among entrepreneurs play a key role in recognizing innovative entrepreneurship opportunities and transforming them into real economic value. Similarly, the 'institutionalization and innovation capacity' had

a positive impact both in the separation of and increasing the probability of choosing Adana than other provinces. This result indicates that cities with companies with high institutionalization and innovation capacity may have higher levels of innovative entrepreneurship.

Further, the 'individual risk-taking and uncertainty-bearing tendency' factor, which had the highest average in Adana and the lowest average in Bolu, contributed positively to the separation and selection of Adana like the previous factor. The results imply that innovative entrepreneurial activity levels may be high in provinces where individual risk-taking tendencies are high in an increasing uncertainty environment. In other words, the greater the number of individuals who can take risks in the environment of uncertainty in a province, the higher the probability of innovative entrepreneurial activities taking place in that province.

Likewise, the 'dissemination of the entrepreneurship culture (media impact)' and 'entrepreneurial skills, knowledge and experience' positively and significantly contributed to the discrimination of Elazığ and Adana in DFA. These results suggest that innovative entrepreneurship level is more likely to be higher in provinces where entrepreneurship culture and knowledge, skills and experience prevail.

Lastly, 'role models', which negatively and significantly affected the possibility of choosing other provinces that were more entrepreneurial or innovative against Van, had the highest average in Adana and the lowest average in Elazığ. Since Van had a significantly higher average than Bolu and Elazığ, this factor did not contribute positively to selecting the provinces. Besides, this factor negatively contributed to the separation of Elazığ from other provinces. All these results partially support the information in the literature because Elazığ, which is more entrepreneurial than Van, had a lower average, while the most innovative province, Adana, had the highest average.

As presented here, the factors that constitute the culture-cognitive dimension played a key role in determining the level of innovative entrepreneurship. For instance,

Adana, which has the highest innovative entrepreneurship level, seems to have more advantages in terms of cultural-cognitive dimension than other provinces.

CHAPTER 7

DISCUSSION

This chapter attempts to discuss the findings obtained from both qualitative and quantitative research phases. As institutions are path-dependent and context-dependent, they significantly determine individuals or communities' behaviour in a province/region, so the distribution of opportunities or barriers that support or hinder the formation and development of innovative entrepreneurship varies significantly across provinces or territories. Thus, this research's primary purpose is to reveal how the three dimensions of institutions, which are the regulative, normative and culture-cognitive dimensions, determine the provinces' innovative entrepreneurship levels, such as Van, Elazığ, Bolu and Adana.

To achieve the study's overall goal, a two-stage research design, which combines both qualitative and quantitative approaches, was adopted. In other words, "the Explanatory Sequential Mixed Method" was adopted using the qualitative phase results to construct the quantitative phase in this study. For the qualitative research that constituted the first phase of the study, 43 in-depth face-to-face semi-structured interviews were conducted with central government representatives, local government representatives, NGOs and entrepreneurs. Following the qualitative phase, 170 survey questionnaires were conducted with innovative entrepreneurs in the four cases/provinces. Findings from both stages of the research were presented in chapters 5 and 6, respectively. The following section discusses the main results of these two research phases.

7.1   Discussion of the Research Findings

This study tried to shed light on the critical roles of regulative, normative and culture-cognitive pillars/dimensions of institutions, defined by Scott (1995), in determining the innovative entrepreneurship levels of the provinces.

In this regard, this section discusses the main findings of the qualitative and quantitative phases. In the first phase of the study, we tried to explore and understand how the three dimensions of institutions support or prevent regional innovative entrepreneurship activities by adopting a qualitative research method. After the data obtained were transcribed, they were analysed using deductive and inductive qualitative content analysis methods. As a result of the content analyses, three general themes were identified: '*the existence of weak and malfunctioning regulatory institutions*', '*normative institutions that support or prevent the formation of innovation and entrepreneurial activities*' and '*culture-cognitive institutions that support or prevent the formation of perception on innovation and entrepreneurship*'.

The first theme obtained as a result of deductive qualitative content analysis consists of four categories: 'bureaucratic procedures', 'financial resources', 'incentives and supports' and 'local actors and social organisations', respectively. On the other hand, the second theme obtained as a result of inductive content analysis includes three sub-themes, such as 'a social structure with culture, values, beliefs and norms that suppresses or pushes the formation of innovative thinking', 'demographic, social and economic constraints and opportunities' and 'regional/political location'. The first sub-theme contains two categories, 'collective perceptions and values' and 'social-economic situation', while the second sub-theme consists of 'demographic structure', 'urbanisation and urban life' and 'economic activities' categories and the last sub-theme contains only one category, 'regional/political location'. The last theme, which represents the culture-cognitive dimension, consists of six categories: 'innovation perception and capacity', 'institutionalisation and innovation capacity of companies', 'inter-company networks', 'entrepreneurial culture', 'perception of entrepreneurship' and 'industrial structure'.

Since there were no serious differences between the provinces regarding the first and last themes, representing regulative and culture-cognitive dimensions, four provinces were evaluated together. However, in the second theme, the normative dimension, provinces were evaluated separately, as there was almost no similarity between the provinces. Therefore, the three sub-themes described above were redefined for each province (see Chapter 5 for more details).

Subsequently, the second phase of the thesis, quantitative research, based on qualitative research results, tried to explain the extent to which the three dimensions of institutions affect the provinces' innovative entrepreneurship levels. In other words, in the quantitative research phase, it was attempted to reveal to what extent the factors obtained regarding the three dimensions of institutions in the qualitative phase explain the differences in innovative entrepreneurship levels between the provinces.

Accordingly, to measure the effects of institutions' regulative, normative and culture-cognitive dimensions on the level of innovative entrepreneurial activity 33, 30 and 24 items were used in the survey questionnaire, respectively.

Using principal component analysis with orthogonal rotation (Varimax), six variables/factors were obtained for the regulative dimension: 'supportive government bodies', 'advantageous government incentives and supports', 'fair business environment', 'well-functioning bureaucratic procedures', 'accessible financial resources', and 'supportive local organisations'.

On the other hand, as in the qualitative part, the normative dimension consisted of three main themes in this phase. In that sense, 'a collaborative society', 'openness to new ideas and information', 'diversity and tolerance', and 'no fear of failure' were the factors defined under the collective perceptions and values that represented the first sub-theme. Under the demographic, social and economic opportunities/potentials sub-theme, two variables were identified: 'income effect' and 'the level of education and urbanisation'. However, under the regional/political locational opportunities/potential theme, 'strategic location/having historically and

geographically critical strategic position' and 'proximity to the market and raw materials' and 'supportive political environment' variables were determined.

Based on the qualitative research results, six factors were obtained from the items used to measure the culture-cognitive dimension of institutions in the survey questionnaire, including 'networks among entrepreneurs', 'institutionalisation and innovation capacity', 'individual risk-taking and uncertainty-bearing tendency', 'dissemination of the entrepreneurship culture (media impact)', 'entrepreneurial skills, knowledge and experience' and 'role models'.

The primary purpose of this section is to provide a clearer understanding of how the findings obtained during the qualitative and quantitative research phases are compatible with each other and to what extent these findings answer the research questions and support the hypotheses of the thesis and arguments in the literature. This section consists of three sub-sections. In the first sub-section, the findings obtained in both phases on the effects of the regulative dimension of institutions on innovative entrepreneurship activities are discussed. In the second sub-section, the evidence showing how the normative dimension obtained as a result of qualitative and quantitative research prevent or support innovative entrepreneurship activities are discussed. In the last section, the supportive and prohibitive effects of the culture-cognitive dimension on innovative entrepreneurship activities are discussed.

7.1.1 How does the region-specific regulative dimension of institutions explain the differences in the levels of innovative entrepreneurship among the cases?

In general, the regulative dimension refers to a set of formally written rules that shape the economic, social, cultural, political and legal environment in a society. The regulative dimension includes legislation, regulations, rules, and policies that shape individuals' interactions and behaviours in a community (Scott, 1995). In that sense, Pejovich (1999) suggests that the formal rules shaping regulative dimension

determine the economic system (i.e., property rights and contracts), political system (i.e., individual rights and government structure) and the enforcement system (i.e., police and judiciary). Hence, this dimension not only identifies the degree of risk associated with the formation of new business but also significantly affects the ease of access of the resources that entrepreneurs need to create a business (Verheul et al., 2002; Baumol and Strom, 2007). Since this dimension of institutions involves all procedures regarding the birth and death of a business, it can either encourage or prevent entrepreneurship activities according to the burden placed on entrepreneurs' shoulders (Busenitz et al., 2000), thus determining innovative entrepreneurship levels of regions.

Based on the relevant literature, this study applied a mixed research method in which qualitative and quantitative research methods were used to explore, understand, and explain the effects of institutions' regulative dimension on the levels of innovative entrepreneurship activities (see Table 7.1). The study discovered the 'bureaucratic procedures', 'financial resources', 'incentives and supports' and 'local actors and social organisations' as effective factors or sub-dimensions of the regulative pillar in determining the innovative entrepreneurship levels of the provinces in Turkey. The study tested the following hypotheses: *"although the laws, rules and regulations applied in the country contain roughly the same obligations for all provinces, there may be significant differences in their implementation among provinces. That's why innovative entrepreneurship is expected to be higher in the provinces that produce and implement policies suitable for entrepreneurship and support the development of innovation activities. The opposite is also true"*. Besides, *"since the investments made in the provinces are supported at different rates in the new incentive system implemented in the country, that is, investments in less developed provinces are supported at higher ratios compared to more developed provinces, it is expected that the effect of the government supports and incentives on innovative entrepreneurial activities differ across the provinces"*. The last hypothesis is that *"as the availability and accessibility of financial resources is a key tool for entrepreneurs to achieve their goals, innovative entrepreneurship activities are expected to be at a higher*

level in provinces where financial resources are abundant and easy to access". Qualitative and quantitative research results strongly supported all these hypotheses. The following sections present discussions on qualitative and quantitative results regarding the predefined sub-dimensions of the regulative dimension.

Table 7.1 Comparisons of the Qualitative and Quantitative Research Findings on the Regulative Dimension

Dim. Ins.	Qualitative Research Findings		Quantitative Research Findings
	Main Themes	**Categories**	**Factors/Variables**
Regulative Dimension	Theme I: The existence of weak and malfunctioning regulatory institutions.	• CTG1: Bureaucratic procedures • CTG2: Financial resources • CTG3: Incentives and supports • CTG4: Local actors and social organization	• Well-functioning bureaucratic procedures. • Accessible financial resources. • Advantageous government incentives and supports. • Supportive government bodies. • Fair business environment. • Supportive local organisations..

Bureaucratic procedures

The qualitative phase's findings regarding the regulative framework showed that bureaucratic procedures, one of the most important elements of the regulative dimension, significantly affect the formation and development of innovative entrepreneurship activities in all four cases/provinces. The content analysis results indicated that participants in all provinces jointly declared that existing cumbersome and excessive bureaucratic procedures are significant obstacles to innovative entrepreneurship activities. In that sense, the results of the quantitative (second) phase of the study, strongly supporting the findings of this phase, revealed that there are no statistically significant differences among provinces in terms of well-functioning bureaucratic procedures. Results suggested that long and heavily

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functioning legal procedures, high start-up costs, the cumbersome, strict and prescriptive structure of state institutions and the inability to adapt to technological developments in the 21st century are essential problem areas in implementing bureaucratic procedures.

The outcomes of both phases were consistent with prior research conducted in different countries or Turkey, which suggested that burdensome and excessive regulations, along with high business start-up costs and uncertainties, are critical factors that prevent innovative entrepreneurial activities (i.e., Klapper et al., 2006; Veciana and Urbano, 2008; Karadeniz, 2010; Boz and Lecaj, 2018). For instance, research in different countries suggests that numerous regulations and procedures, time requirements, burdensome bureaucracy and large government size may discourage entrepreneurs from starting a new business (van Stel et al., 2007; McMullen et al., 2008; Urbano and Turró, 2013). In a similar vein, a large number of studies in the Turkish context have suggested that bureaucratic procedures and practices mean significant heavy burdens for entrepreneurs both in the establishment, growth, export and innovation process of an enterprise (Boz and Lecaj, 2018). In her study on the province of Düzce, Bozkurt (2019) also suggests that entrepreneurs need to get approvals for similar transactions in many different institutions to start a new venture, which takes considerable time and effort lowers the motivation of entrepreneurs.

Further, qualitative phase results showed that participants in the provinces, particularly those in Van, pointed to nepotism and discrimination in bureaucratic procedures, meaning that those who have a friend-dude relationship with people in government institutions and/or politic can handle bureaucratic procedures more quickly. The existence of tribalism in Van may lead to the emergence of such a situation. Moreover, it was suggested that provinces have significant differences regarding applying procedures arising from socio-cultural differences between the cases. Participants expressed that people working in government offices in larger cities (mainly metropolitan areas) are much more formal and more rigid than those in smaller cities. Apart from these, the participants, especially in Adana, stated that

the laws, regulations, and policies prepared with a centralised mindset are not considered the local characteristics; that is, all provinces are assumed to have the same characteristics. Therefore, attention was drawn to the existence of discrepancies between theory and practice. On the other hand, participants representing state institutions stated that entrepreneurs do not know the rules and procedures sufficiently. Most of them see the simplest transaction as a burden of paperwork and therefore tend to abide or avoid the procedures.

However, participants in all provinces agreed that the number of bureaucratic procedures in Turkey has recently begun to decline with the process of compliance with OECD and EU rules and policies. As indicated in Table 5.2, the number of procedures and days required to start a new business declined considerably from 2004 to 2018. For instance, the number of procedures declined from 14 to 7, while the number of days felt down from 39 to 6.5.

To sum up, the findings of both qualitative and quantitative phases demonstrated that bureaucratic procedures still constitute a significant problem or complaint area for entrepreneurs. However, when the results of both phases are examined, bureaucratic procedures work better in Adana and Bolu, the provinces where the innovative entrepreneurship level is relatively higher. This can be explained by the fact that entrepreneurs are more knowledgeable about bureaucratic procedures and adapt to processes more quickly in these cities.

Financial Resources

Financial resources are widely recognised as a 'sine qua non' for starting a new venture and/or growing an existing venture and/or engaging in R&D and innovation activities. Entrepreneurs can use various financial resources to maintain these processes; for example, they can apply to equity (own savings or debt from family, friends or immediate surroundings), additional financial resources (angel investor and venture capital), bank loans, or other resources (leasing and factoring). However, depending on the availability of financial resources, entrepreneurs' access to finance

may differ significantly from region to region, which naturally determines regions' entrepreneurship potential and culture.

The qualitative and quantitative research results of this study provide essential information about the availability and accessibility of financial resources. According to the findings, entrepreneurs in all provinces have severe problems in accessing financial resources, even if they have different levels of innovative entrepreneurship. Participants in all four regions reported that entrepreneurs have limited equity capital to start innovative entrepreneurship activities. Likewise, participants suggested that the amount or variety of additional financial resources that enable entrepreneurs to start an innovative activity or support an existing company's innovation activity is quite limited. They argued that the culture of additional financial support mechanisms, such as angel investor and venture capital, has not yet developed in the country and that these concepts are quite distant/foreign to entrepreneurs in their provinces. While previous studies support these findings, they show that over 90% of angel investors operating across the country are clustered in İstanbul (MARKA, 2018). Moreover, although the number of angel investors and investment amounts in the country has increased in recent years, it is lagging behind European countries. For example, according to the EBAN (2018) report, in the United Kingdom leading the European angel market, the number of formal and informal angel investors was 9 thousand and the total investment amount was 109.4 million Euros, while these figures were 2600 and 52.6 million Euros for Turkey. The main obstacles to the development of such mechanisms in Turkey were shown as capitalists' limited capital accumulation and risk-averse tendencies. Additionally, the lack of sufficient knowledge and experience of capital owners about such relationships is another critical reason preventing them from supporting innovative entrepreneurs. Therefore, the participants hinted that the state should also support the development of this process to ensure that such financial resources become more functional.

Nevertheless, both content analysis and descriptive statistics revealed that compared to other provinces, entrepreneurs in Van and Elazığ, provinces with relatively low levels of innovation-oriented entrepreneurship, have difficulties in accessing bank

loans. Notably, the participants in these cities claimed that entrepreneurs have serious collateral problems while getting credit from the bank. Beyond that, banks in Van have made credit restrictions for entrepreneurs; that is, they try to show the guarantees shown by entrepreneurs less than their actual value. The short-lived initiatives and the security concern (terrorist incidents) in Van were shown as the most important reasons underlying this behaviour of the banks. Therefore, banks are very selective in lending. Another subject of a complaint about bank loans is that the loan interest rates are quite high. Recent economic difficulties such as high inflation, excessive depreciation of TL, and increased foreign trade deficit have caused bank loans to be very costly. This has limited entrepreneurs' access to financial resources, which has limited the innovation activities.

Statistical analyses performed at the quantitative phase of the study strongly supported these findings. For instance, according to MANOVA and ANOVAs results, Adana, the province with the highest level of innovative entrepreneurship, had statistically significant higher access to financial resources than the other provinces. The discriminant function and multinomial logistic regression analyses result also supported the qualitative findings and the hypothesis of the thesis. The results of both analyses showed that ease of access to financial resources has a critical role in the separation or selection of the most innovative province (Adana) and the least innovative province (Van) (see Table 6.26-29).

The results of both phases are compatible with numerous other empirical and theoretical studies conducted in a different context. Research on entrepreneurship in Turkey and other countries suggests that access to finance is essential for entrepreneurs because they often have insufficient equity and difficulty in accessing bank loans when starting a new business (Sonmez and Toksoy, 2014; Bozkurt, 2019). For example, Doğan (2015), working on the problems of entrepreneurs in Turkey, define the financing constraint and access problem as the most critical obstacle. Similarly, Bozkurt (2019) suggests that entrepreneurs in Turkey have significant problems in finding sufficient capital or showing the collateral requested while accessing financial capital.

Further, previous research shows that the availability and accessibility of financial resources are vital for entrepreneurs intending to start an innovative activity and for the successful development and growth of the private sector (Rusu and Roman, 2017; Kumar and Borbora, 2019). Several researchers have suggested that it is quite difficult for entrepreneurs to develop, innovate and compete in the absence of finance or with the limited financial resources (Cetindamar et al., 2012; Karacaovali, 2016). Accordingly, policies promoting access to financial capital, including bank loans, venture capital and angel investors, significantly contribute to the development of regional innovative entrepreneurship.

Incentives and supports

Governments shape the entrepreneurship ecosystem not only through legislation, regulations and laws but also through various policies and measures (Dvouletý and Lukeš, 2017). Hence, it is essential to shedding light on the impact of government incentives and supports regional innovative entrepreneurship activities.

The incentive system, which has been in force in Turkey since 2012, includes a more sector-specific approach, aiming at supporting high-value-added, high-tech and export-oriented investments to correct the "current account deficit" problem of the country. In this incentive regime, the provinces receive support according to their socio-economic development levels; that is, the least developed provinces receive higher and long-term support than the most developed provinces. For this reason, 81 provinces in Turkey were divided into six different regions. 1st Region represents the most developed provinces, while the 6th Region represents the least developed provinces. According to this categorisation, Adana and Bolu are located in the 2nd Region, Elazığ in the 4th Region and Van in the 6th Region. However, with the introduction of the "centre of attraction" program in 2016, investments made in Elazığ Organised Industrial Zone (OIZ) have begun to be evaluated within the scope of the 6th Region incentives. After this brief information about Turkey's incentive regime, the effects of the current incentive system on the innovation activities of the provinces are reported as follows.

Both qualitative and quantitative research phases revealed significant perceptual and opinion differences between the cases regarding the effects of incentives and supports on regional innovative entrepreneurship activities, as expected. In other words, participants in Elazığ and Van, provinces with relatively low levels of innovative entrepreneurship, expressed more positive opinions about the current incentive system and its effects, while those in Bolu and Adana, provinces with relatively higher levels of innovative entrepreneurship, expressed contrary views. These findings support the hypothesis of the study.

The qualitative phase results showed that participants in Bolu and Adana criticised the current incentive regime very harshly, claiming that it is not a fair system and that it has eliminated the competition between the provinces over time. They also added that cities, which have received less incentive than neighbouring provinces due to the absence of a control mechanism in the current incentive system, have lost their attractiveness in terms of investments and have fallen behind in the competition. Participants in both provinces reported that since the cities very close to their cities (e.g., Düzce, which is located in the 4th Region, is 50 km away from Bolu, while Osmaniye, located in the 5th Region, is a hundred km away from Adana) have received higher rates of incentives and support, the attraction of their cities in the eyes of investors has begun to disappear, which in turn could result in less innovative entrepreneurial activities.

On the contrary, the participants in Elazığ and Van expressed their satisfaction with the incentive regime and stated that this system has made their cities more attractive for investments, and thus, a significant number of investors have invested in their cities, especially in recent years. The participants pointed out that thanks to the 6th Region incentives, the number of labour-intensive and large-scale investments have begun to increase in their cities that have significantly compensated for the unemployment in the cities. The participants also suggested that although the current incentive regime is not a mechanism that directly supports innovative entrepreneurship activities, it creates an opportunity to develop innovative entrepreneurship activities by attracting big investors to their provinces.

The results of the quantitative phase of the study are quite compatible with these findings. According to MANOVA and ANOVAs results, Bolu and Adana had considerably lower advantages of the state supports and incentives than Van and Elazığ (see Appendix Table 6.2A). Discriminant function analysis results strongly supported these findings because, in the first function, the 'advantageous government incentives and supports' variable contributed positively to Van's highest score, while negatively to the lowest score of Bolu (see Table 6.31). Similarly, in multinomial logistic regression, this variable made a significant negative contribution to the probability of Bolu and Adana provinces being selected against Van. In other words, one unit increase in this variable reduces the chances of Adana and Bolu provinces to be selected against Van by 95 and 84 per cent, respectively.

All these results clearly demonstrate that government supports and incentives do not function as intended. Numerous studies examining the effectiveness of regional policies and incentives in Turkey have revealed that the incentives and public investment instruments implemented do not achieve the desired result (Bakırcı et al., 2014; Yılmaz, 2016). According to Dağ and Çelik (2019), Turkey's incentive systems caused investments to be concentrated in certain regions, which led to an increase in interregional development disparities. Similarly, Yavan (2010) argues that the incentives in Turkey show a very unequal and distorted distribution in spatial and regional terms.

On the other hand, the qualitative results also showed that the association of the current incentive regime with innovation activities is weak. Participants in the four cases agreed that the current incentive system is mainly geared towards large-scale and labour-intensive investments. Further, it was suggested that the supports provided by KOSGEB goes mostly to non-innovative or traditional economic activities, including restaurant, café, hairdresser, and so forth.

Furthermore, the results revealed that the current incentive regime has missing or incorrect practices and as well as they are used outside of their primary purpose. For instance, the participants in Van hinted that the right people or projects are not

supported due to the lack of objective evaluation criteria in the incentive and support process. Similarly, the participants in Elazığ claimed that state subsidies are not sufficient and not used for the right projects. In this context, Yayar and Demir (2012) suggest that incentives should be based on specific accounts and plans rather than the political power of certain groups and individuals. Likewise, Yılmaz (2016) argues that incentives not evaluated within the framework of transparent and objective criteria would lead to corruption and information asymmetry.

Besides, participants suggested that to get support from government agencies; entrepreneurs need to spend a lot of time and effort. Previous research suggested that the bureaucracy burden and lack of coordination in the incentive system discourage investors from investing (Yılmaz, 2016).

The findings also indicated that although the least developed provinces have benefited more from the government incentives and support, they perform poorly in regional innovative entrepreneurial activities. This outcome raises questions in mind about the effectiveness of the incentive regime implemented in Turkey. Should the state review the system? In this regard, researchers suggest that governments today should focus their efforts on creating a regional entrepreneurial ecosystem rather than providing financial support to entrepreneurial activities through a range of public policies (Terjesen et al., 2016).

Local actors and social organisations

As the practitioner and supervisor of the regulative dimension, central and local government representatives/agencies and social organisations in provinces are critical in creating a fair, innovative and competitive business environment. Coordination between government agencies in a province, the way these organisations enforce rules and laws, and how they distribute government support and incentives are closely related to the formation and development of innovative entrepreneurship activities in a province.

The study's findings provide substantial evidence on the effects of central and local government institutions and social organisations in all provinces on innovative entrepreneurial activities.

The qualitative phase research findings revealed that central and local government agencies and social organisation in all provinces have both positive and negative effects on regional innovative entrepreneurship activities. For example, some of the participants in Van expressed positive opinions, stating that the public does not hinder investments, but on the contrary, it does essential work to mobilise local capital and eliminate the negative image of the city on the issue of security. On the other hand, other participants argued that the state does not invest enough in the city and does not support the city's products sufficiently.

Contradictory opinions were also expressed by the participants in Elazığ. Some participants criticised the government agencies and suggested that their effects on innovative entrepreneurship activities are zero. They claimed that the municipality, in particular, avoids taking the initiative and does not support innovation activities. Lack of support for technopark was shown as another problem. On the contrary, the participants emphasised state institutions' financial support and entrepreneurship training as positive contributions of the government agencies.

Similar views apply to Bolu, such that some participants argued that the technopark is not supported sufficiently, while other participants argued that politicians, local government and central government supported innovative entrepreneurship activities sufficiently.

While the vast majority of participants in Adana argued that state institutions and professional chambers operating in the province offer all kinds of contributions for the development of innovative entrepreneurship activities, some participants argued that they do not value and support entrepreneurs.

The findings show that local actors and social organisations do not support innovative entrepreneurship activities as desired, which are in line with previous

studies on Turkey. For example, in her work on entrepreneurship, Karadeniz (2010) obtained negative opinions about government programs and institutions' adequacy and effectiveness in providing adequate support to new and growing firms.

The qualitative results also showed that coordination and harmonisation between government bodies have increased significantly in recent years in all provinces. It was claimed that institutions that did not come together due to the differences in political views in the past are now working together. However, only the participants in Adana drew attention to the adverse effects of political wrangling. It was claimed that the central government has not adequately supported Adana for nearly 20 years due to political reasons. It was suggested that since the central and local governments are from different parties with different ideologies, the city was pushed to the back (second plan) by the central government in terms of investments and supports, which caused Adana to decline in terms of socio-economic development level. The statistics partly supported these claims, such as among 81 provinces, Adana ranked 9th in 1996 but declined to 16th in 2011.

The findings of the quantitative phase are generally consistent with the results obtained in the qualitative phase. MANOVA and ANOVAs results showed no statistically significant differences between the provinces in terms of supportive government bodies and government institutions. These results indicate that there are no significant differences among regions regarding the contribution of central government bodies, local administrations, universities, professional chambers and NGOs to the development of innovative entrepreneurship. According to the descriptive statistics shown in Appendix Table 6.1F, respondents in all provinces disagreed with the statement that all these organisations have sufficiently supported innovation activities. Also, descriptive statistics revealed that entrepreneurs in all provinces had a neutral view of (neither agreed nor disagreed) or disagreed with the statement that central and local government bodies and professional chambers have informed the entrepreneurs sufficiently about the supports, contributed to the development of innovative entrepreneurship, are open enough to new investments

and ideas, have given the necessary permissions quickly and that these institutions work in harmony (see Appendix Table 6.1A).

On the other hand, MANOVA and ANOVAs results demonstrated that there are significant differences in term of fair business environment between the provinces: while Bolu had the highest average, Van had the lowest average. These results imply that compared to other regions, companies in Bolu have more equal chances of participating in public tenders. Also, there is a more transparent and participatory business environment and a better fight against unfair competition and the informal economy.

However, the literature frequently emphasises that state institutions should support entrepreneurship activities by creating a favourable business environment (Obaji and Olugu, 2014). Therefore, local actors and social organisations have played a crucial role in developing policies and measures for supporting entrepreneurs and have a clear responsibility towards them (Demirdag and Eraydin, 2020).

Overall, these results did not meet the expectations of the thesis because, in Adana, which has a higher level of innovative entrepreneurship, local actors and social organisations were expected to play more active roles in the development of innovative entrepreneurship activities. The frequency mismatch between central and local government bodies in Adana can be shown as the most important reason for this result.

7.1.2 How does the region-specific normative dimension of institutions explain the difference in innovative entrepreneurship levels among the cases?

The normative dimension, which includes traditions, conventions, codes of conduct, morals, values, norms, beliefs, habits and attitudes, describes the general framework of relationships at the individual and community level, together with the system of social value in a society (North, 1990; Scott, 1995). In other words, it consists of

informal rules that regulate human interactions. Dobler (2011) suggests that every society has to act under the norms and values of its culture; that is, individuals who try to move outside of them in society are either punished or excluded.

Further, the limits defined by the normative dimension may differ for each society, so some forms of behaviour promoted in a community may be restricted in other communities. In other words, communities with different normative dimension may have different attitudes and behaviours towards newness and changes. For instance, Khan et al. (2017) argue that societies with different normative values have various innovation capacities because the normative dimension directly or indirectly forces entrepreneurs to adhere to the codes of conduct set by a particular community such as industries, business associations, families and society (Lee and Law, 2016). Similarly, several authors suggest that informal institutions (normative dimension) shape individuals' entrepreneurship preferences, the sector they will enter, and the appropriate strategies they will adopt (Bruton et al., 2010). Hence, institutions' normative dimension can explain differences in the types and levels of entrepreneurial activities across regions.

Accordingly, since each society has a world view according to its normative values, the approach and perspective of each region to innovative entrepreneurship activities are expected to change depending on their normative values. In this context, using qualitative and quantitative research approaches, this study aimed to reveal the effect of normative dimension on regional innovative entrepreneurial activities. In other words, the study tried to show how and to what extent the region-specific normative dimension explains the innovative entrepreneurship levels of the provinces. Two main hypotheses were derived from the current theoretical and empirical debates for this study. First, "*it was hypothesized that provinces with a culture, tradition, values, norms and belief system that support and adopt entrepreneurship, creativity and innovation will have a higher level of innovative entrepreneurship*". Second, "*diversity and tolerance are widely accepted as crucial determinants of creativity in a society, so it was hypothesized that the higher the level of tolerance and openness*

to new and different ideas in a province, the higher the level of innovative entrepreneurship in that province".

The qualitative research findings revealed that provinces with different levels of innovative entrepreneurship have quite different normative values, as expected. According to the results, normative factors that prevent the formation of innovative entrepreneurship came to the fore in the province with a relatively low level of innovative entrepreneurship; on the contrary, normative values supporting innovative entrepreneurship dominated in the region with a higher level of innovation-driven entrepreneurship.

In this stage of the study, three sub-themes were defined under the general theme of the normative dimension, using the inductive qualitative content analysis method (see Table 5.1). The first sub-theme that focused directly on the effects of perceived attributes of the normative dimension of institutions was defined as *"a social structure with culture, values, beliefs and norms that suppresses or pushes the formation of innovative thinking",* The second sub-theme related to the demographic and socio-economic characteristics of the society, which can indirectly shape the normative dimension, was described as *"demographic, social and economic constraints and opportunities",* and the last sub-theme on the advantages and disadvantages of the regional and political location of the province that can indirectly shape the normative dimension was determined as *"regional/political location".*

The second phase of this study, the quantitative research phase, was built on the findings of these three themes and previous studies in the literature. The quantitative research findings clearly showed to what extent normative values explain the differences in innovative entrepreneurship levels among the provinces. While the results confirm the findings of the previous stage, on the other hand, they strongly support the hypotheses of the thesis and the findings of previous studies.

In this part of the study, the qualitative and quantitative data findings obtained in four cases are discussed under the three themes described above (see Table 7.2).

A social structure with culture, values, beliefs and norms that suppresses or pushes the formation of innovative thinking

According to the qualitative research results of this study in which inductive content analysis was used, this sub-theme consists of two main categories: 'collective perceptions and values' and 'social-economic situation' (see Table 5.1). While the former category is common for all cases, the latter category is only determined for Bolu. However, the main components (codes) that constitute the first category differ significantly between the cases/provinces with different innovative entrepreneurship levels. In other words, considering the association between normative dimension (culture, norms, traditions, beliefs, attitudes, etc.) and innovative entrepreneurship level of their city, the participants in each province defined the perceived attributes of institutions' normative dimension in different ways. Notably, in regions where innovative entrepreneurship levels are relatively lower such as in Van, Elazığ and Bolu, the participants mostly focused on normative factors that hinder the formation of innovative entrepreneurship activities. On the contrary, in Adana, where the innovative entrepreneurship level is relatively higher, the participants highlighted more normative factors that support innovation activities. These results clearly support the study's hypotheses because innovative entrepreneurship activities were expected to be higher in a supportive normative framework.

In qualitative research, for instance, 'rurality', 'weak production/trade/work culture', 'laziness', 'low manners and culture', 'tribalism and micro-nationalism', 'conventionalism (excessive adherence to tradition)', 'political and ideological discrimination', 'strong family ties and social pressure', 'envy and jealousy' and 'individuality (away from the collective)' were defined as normative factors playing major roles in Van's relatively low innovative entrepreneurial activity (see Appendix Table 5.2B and Figure 5.8). However, 'rurality' and 'tribalism and micro nationalism', prevent the transition of the society in Van from the communal society (Gemeinschaft) to the associational society (Gesellschaft), can be identified as the factors that form the basis of the normative structure in Van. While the prevalent rural culture in Van has led to limited development of production, trade and working

culture in the society, it may have caused the society to have lower manner and culture. On the other hand, tribalism and micro-nationalism, which led to hierarchical social order formation, causing limited network, trust, and cooperation (Dobler, 2011), may have caused political and ideological discrimination and envy and jealousy in Van. Participants said that tribalism and micro-nationalism and the discrimination derived from them significantly affect the economic behaviour of individuals and the way people do business. For instance, small groups in society and the conflicts between these groups prevent society from having a more collaborative structure and thus generating more innovative ideas. In close relation to these two features, conventionalism, and strong family ties and social pressure came to the fore as other normative values that negatively affect the formation of innovative entrepreneurship activities (see Chapter 5 for more detail). Karadeniz (2010) stated that cultural norms surrounding entrepreneurship may hinder its development in the long term. According to her, Turkey's national culture generally does not support self-sufficiency, autonomy, and personal initiative and does not promote creativity and innovation. In other words, in Turkish society, the practice of raising a child in the family based on traditional obedience disrupts individual creativity, innovativeness and the development of personal initiative.

Despite all these, it was claimed that with the increasing interactions with the big cities, a social change that could positively affect the formation of innovation activities in Van has begun to occur. With these interactions, individuals in Van have the chance to acquire new knowledge in developed provinces and the chance to experience new lifestyles, thereby improving their level of manners and culture.

On the other hand, according to the semi-structured in-depth interviews, in Elazığ, the province where the level of entrepreneurship is high, but the level of innovativeness and the share of high-tech sectors is low, 'conservatism', 'religiousness', 'strong family ties and social pressure', 'selfishness', 'to rely on the state', 'passivity', 'limited local facilities', 'resistance to diversity and lack of tolerance' and 'distant to innovation' were the main normative values that prevent the formation of innovative entrepreneurship activities. On the contrary,

'management skill' and 'having cultural diversity in the past' stand out as normative features that may support the formation of innovative entrepreneurship activities in Elazığ (see Appendix Table 5.3B and Figure 5.9).

Unlike other provinces, it was claimed that the state has made significant investments in Elazığ since the past, which has led to the creation of sympathy towards the state and thus a culture of reliance on the state. Thus, the participants in Elazığ suggested that due to the prevalence of state institutions and enterprises in the city, many people work as workers or civil servants in these organizations, and therefore they do not need to start an innovative activity. They also claimed that this situation led people to become more passive and the mentality of waiting for everything from the state to settle in society over time. On the other hand, extreme conservatism, traditionalism, and religiosity came to the fore as the main normative features that prevented Elazığ society from being more innovative. Many previous studies have suggested that since conservatism together with religiousness can restrict free-thinking, it can prevent individuals from generating more innovative ideas (de Noble et al., 2007; Dana, 2009; Dobler, 2011).

Like Van, strong family ties and social pressure emerged as important socio-cultural factors negatively affect innovative entrepreneurship activity in Elazığ. This result contradicts studies showing that innovation and entrepreneurship activities are more advanced in societies promoting individuality, free choice, social progress and creativity (Alvarez and Urbano, 2012; Liñán and Fernandez-Serrano, 2014; Rooks et al., 2016). These results are also in line with Bozkurt et al. (2012), defining family pressure as an essential factor preventing individuals from becoming entrepreneurs in Turkey.

Besides, contrary to the findings of Florida (2002) and Qian (2012), which found tolerance to diversity as one of the most important driving factors of innovative activities, the participants claimed that the society in Elazığ does not have enough tolerance towards diversity, which keeps them away from innovation activities.

Table 7.2 Comparisons of the Qualitative and Quantitative Research Findings on the Normative Dimension

Dim. Ins.	Qualitative Research Findings			Quantitative Research Findings
	Main Themes	**Sub-themes**	**Categories**	**Factors/Variables**
Normative Dimension	Theme II: Normative institutions that support or prevent the formation of innovation and entrepreneurial activities.	Theme 2.1. A social structure with culture, values, beliefs and norms that suppresses or pushes the formation of innovative thinking.	• CTG 1: Collective perceptions and values • CTG 2: Social economic situation (only Bolu)	• A collaborative society. • Openness to new ideas and information. • Diversity and tolerance. • No fear of failure.
		Theme 2.2: Demographic, social and economic constraints and opportunities.	• CTG1: Demographic structure • CTG2: Urbanization and urban life • CTG3: Economic activities	• Income effect. • The level of education and urbanization.
		Theme 2.3: Regional / political location.	• CTG1: Regional/political location	• Strategic location/ Having historically and geographically critical strategic position. • Proximity to the market and raw materials. • Supportive political environment.

As in the above two cases, as a result of semi-structured in-depth interviews in Bolu, many normative values were identified that adversely affect the formation of innovative entrepreneurial activities here. However, unlike other cases, in this sub-theme, normative values hindering the formation of innovative entrepreneurship activity in Bolu were evaluated under two categories. First, perceptual normative features that prevent the formation of innovative entrepreneurship under the category of 'collective perception and values' were determined as follows: 'commitment to the state', 'loyal to the Ottoman Empire', 'fear of failure', 'prevalence of habit of earning money from the interest (interest culture)', 'saving culture', 'frugality', 'weak production/trade/work culture', 'rurality', 'a society subjected to oppression and violence', 'introversion/closed society', 'oppressive and exclusionary society', 'change of moral structure' and 'distant to innovation'. Second, the 'economic situation of society' category includes three perceptual attributes, such as 'wealthy society', 'tight connection with villages and income from villages' and 'a fertile place'. In contrast, 'urbanization and increase in manners' and 'non-conservative society' were identified as supportive normative values under the first category.

According to inductive content analysis, Bolu, the province where the level of entrepreneurship and the share of the high-tech sectors is high, but the level of innovativeness is low, experienced adverse historical events in the past, which led to the formation of an institutional/historical memory here. As many scholars suggest, history plays a critical role in forming and developing an institution (Baumol, 1990; Acemoglu et al., 2004; North, 2005). In that sense, the participants reported that since the society was subjected to pressure and violence in the past, the people of Bolu today have an introverted and closed structure, leading to an oppressive and exclusionary social system.

Besides, in contrast to research indicating that creative thinking and hence innovative activities will become widespread in environments with high tolerance to diversity including different cultures, races, religions and lifestyles (e.g., Alvarez and Urbano, 2012; Pathak and Muralidharan, 2016), qualitative findings revealed that the society in Bolu excludes foreigners, does not accept diversity and makes micro-nationalism.

Further, the participants pointed out that the society in Bolu suffered from hunger and misery because of the adverse historical events in the past, and therefore, they are quite frugal, and the culture of saving has developed very much in the society. When these features are combined with a high fear of failure, in Bolu, there has been a tendency to invest their money in the bank rather than to invest in innovative activity. This relationship has been confirmed by Urbano and Alvarez (2014), showing that fear of failure harms individuals' tendency to become entrepreneurs. Similarly, Karadeniz (2010) found the fear of failure as one of the major obstacles to starting a new job in Turkey.

As in Van, dominant rural culture and the weak production, working and trade culture were cited as other reasons for the low level of innovation activities in Bolu. Apart from these, the participants tried to explain the low level of innovative entrepreneurship activities in Bolu with society's economic situation. They suggested that the people of Bolu are quite wealthy. That is to say, people living in the city could earn a considerable additional income from poultry and animal husbandry in the villages and agricultural activities in the fertile farmlands. Thus, they do not need to start a new business.

On the other side, qualitative findings revealed that, unlike Van and Elazığ, the community in Bolu is not conservative and has a higher manner and culture that may positively affect the development of innovative entrepreneurial activities in Bolu. These two features may create essential opportunities for the emergence of innovative ideas in Bolu.

In contrast to the findings obtained for the three provinces discussed above, qualitative research findings defined supportive normative attributes for Adana. Since the innovative entrepreneurship capacity is higher in Adana than in other provinces, the participants here naturally focused on the normative factors that triggered this result. According to inductive qualitative content analysis results, 'cosmopolitan and cultural diversity', 'free and non-conservative thinking', 'to be open and tolerant to differences', 'having agrarian elite', 'having a strong

relationship with abroad and knowledge transfer', 'the vitality of social and cultural life', 'high manners and culture', 'strong production/trade/work culture' and 'social structure supporting innovation' were the normative features playing a pivotal role in the high level of innovative entrepreneurship activities in Adana. On the contrary, only 'resistance to change' was a preventive factor for innovative activities in this city.

Unlike other provinces, Adana has a cosmopolitan and rich cultural diversity and a social structure supporting free-thinking and open-mindedness. Simultaneously, the community in Adana is highly tolerant of newness, differences and diversity. Such characteristics of Adana probably played an essential role in leading the city to be more innovative. In this sense, numerous studies have identified diversity, tolerance and openness as essential economic assets leading to the spillover of knowledge which promotes creativity, innovation and technological development (Florida, 2002; Audretsch et al., 2010; Brixy et al., 2017). For instance, Aparicio (2017) suggests cultural diversity brings a new perspective to the entrepreneurship process, particularly innovation-oriented entrepreneurship. Similarly, Gick and Grau (2018) have demonstrated a moderately positive relationship between cultural diversity and innovation activities.

Another normative feature that differentiates Adana from other cities and supports the development of industry and innovative entrepreneurship activities in Adana is the emergence of agrarian elites thanks to substantial revenues from broad and fertile agricultural lands. Participants declared that most of the agrarian elites, large capital owners, spent a significant portion of their income on investment in the industrial sector in Adana. In addition, it was claimed that agrarian elites and their children, many of whom were studied abroad, have had significant social and economic relations with many major cities in Turkey or abroad, and thanks to these relations, a continuous flow of information to Adana has occurred, which has significantly nurtured innovative entrepreneurship activities. These results supported many studies that emphasize the importance of networks that facilitate access to financial resources, human capital and new knowledge in entrepreneurship and innovation

activities (e.g., Lee and Law, 2016; Khobdeh, 2017; etc.). Moreover, because it has a higher level of urbanization than other provinces, qualitative results revealed that the socio-cultural life in Adana is more attractive and society is more sophisticated and cultured. Thus, Adana was able to stand out as a more attractive place for innovative entrepreneurship activities. Concerning this, empirical studies indicated that more urbanized areas offer more entrepreneurial opportunities as they enable entrepreneurs to access rich and diverse financial, knowledge and human resources and large markets (Liñán et al., 2011; Kumar and Borbora, 2019).

Furthermore, having been a significant production and trade centre throughout history has led Adana to have higher production, trade and working culture than other provinces. Participants argued that the fact that the society in Adana has been involved in trade and production for a long time has made an essential contribution to making individuals here more prone to entrepreneurial activities.

The quantitative research results, the second phase, not only strongly support the findings of the qualitative phase, but also confirm the hypotheses of the research and the arguments of previous studies in a different context. According to the results of one-way MANOVA, the provinces with varying levels of innovative entrepreneurship have significantly differentiated from each other in terms of institutions' normative dimension (see Table 6.24). As expected, Adana had a considerably higher 'collaborative society' than all other provinces (see Appendix Table 6.2B). While this result shows that the culture of production, trade and working in Adana has improved more than in other provinces, it also implies that envy, jealousy and selfishness are not obstacles to developing innovation activities here. As determined in the qualitative research phase, envy, jealousy, selfishness and low production/trade/working culture were determined as critical preventive factors of forming a collaborative society that would encourage the formation of innovative entrepreneurial activities.

As expected, ANOVAs results suggest that Adana had higher averages than other provinces in terms of 'openness to new ideas and information' and 'diversity and

tolerance'. These findings are highly consistent with the results of the first phase of the research and the literature which identifies tolerance, openness and diversity as critical factors of creativity and innovativeness. Many scholars argue that regions or countries with these features may have higher innovativeness capabilities (e.g., Pathak and Muralidharan, 2016; Gick and Grau, 2018). These results imply that compared to other provinces, social pressure, excessive tradition, and closed/conservative social structure have relatively fewer adverse effects on the development of innovative entrepreneurship activities in Adana. On the contrary, it implies that the society in Adana is more open to innovations, changes and new ideas that value diversity and multiculturalism while less excludes foreigners/migrants.

On the other hand, as highlighted in semi-structured in-depth interviews, ANOVA results showed that 'fear of failure' in Bolu was significantly higher than in other provinces. This finding, which supports research suggesting that the fear of failure negatively affects entrepreneurial activities, also confirms the rhetoric about Bolu, where the people incline to evaluate their money in the bank instead of investing. Further, quantitative findings showed that compared to other provinces, the 'income effect' hinders the formation and development of innovative entrepreneurship more in Bolu. This result is entirely consistent with the qualitative findings, suggesting that the wealth of the society in Bolu and the additional income from villages are vital factors that prevent people from starting innovative activities.

Demographic, social and economic constraints and opportunities

Many researchers have widely recognized the demographic and socio-economic structure of a society that closely linked to the normative pillar of institutions as significant regional factors that determine the type and level of entrepreneurship (Verheul et al., 2002; Dvouletý and Mareš, 2016). Several studies, for example, indicate that individuals equipped with high-quality human capital are more easily able to perceive and successfully exploit business opportunities in a market, and are therefore more likely to establish an innovative business (Kumar and Borbora, 2019; Urban and Ratsimanetrimanana, 2019). On the other hand, several studies suggest

that innovative entrepreneurship activities are more likely to occur in cities with high urbanization because urbanization, which means a diversified and dynamic demand structure, offers entrepreneurs important opportunities such as advanced business infrastructure, a pooled labour market, proximity to market and easy access to financial capital and research centres (Verheul et al., 2002; Kumar and Borbora, 2019).

Both qualitative and quantitative findings in this thesis, which are mostly consistent with these findings and arguments, showed significant demographic, social and economic constraints and opportunities that affect the formation and development of innovative entrepreneurship activities in all provinces. Qualitative results showed that brain drain occurring due to various reasons and the high unemployment rate are significant obstacles to the emergence of innovative entrepreneurship activities in all cases. However, according to semi-structured in-depth interviews, Van has limited human capital, whereas Adana comes to the fore with its rich human resources. On the other hand, while participants in Bolu and Elazığ described the low (or negative) net migration rate and small population size as important obstacles to the development of innovation activities, those in Adana claimed that migrants from the surrounding provinces and provinces in the East and South-East Anatolia regions make a significant contribution to the entrepreneurship and innovation activities in Adana. Further, the low urbanization rate and insufficiency of urban life stood out as other factors preventing innovative entrepreneurship activities in other provinces outside Adana. In addition, as a border city, smuggling and illegal economic activities in Van were identified as another obstacle to innovative entrepreneurship activities, while in Adana, the most innovative city, strong industrial sector and high agricultural productivity were introduced as economic opportunities supporting innovative entrepreneurship activities.

The results of the quantitative phase of the study strongly support the findings obtained in the qualitative phase and the literature. According to ANOVAs results, as expected, Van, the province with the lowest innovation level, had a significantly lower 'education and urbanization level' than other provinces (see Appendix Table

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6.2B). However, as found in the qualitative phase, descriptive statistics revealed that innovative entrepreneurs in all provinces agreed with the statement that brain drain is an essential factor preventing the development of innovative entrepreneurship (see Appendix Table 6.1B).

Regional/political location

The regional/political location that emerges as a sub-dimension of the normative dimension has a different and significant effect on the provinces' innovative entrepreneurship levels. Both qualitative and quantitative findings revealed that Van, which is the least innovative province, is the most disadvantageous province in the regional and political sense, while Adana, which is the most innovative province, is the most advantageous province. According to the semi-structured interviews, security problems, unpredictable future, low competitiveness, lack of strong political figures, high transportation costs, geographical obstacles and distance to raw materials and market were critical regional and political problems that hinder the development of innovative entrepreneurship activities in Van. On the contrary, having favourable climate and living conditions and a geographically strategic location, and being an important place in the past, and close and accessible to raw materials and the market came forward as important regional and political factors that trigger innovative entrepreneurship in Adana.

The quantitative research results are quite compatible with these findings. In that sense, the results of the ANOVAs showed that Adana was significantly and positively differentiated from the least innovative province, Van, in terms of 'strategic location', 'proximity to the market and raw materials' and 'supportive political environment'. Similarly, the provinces of Bolu and Elazığ, which are relatively more entrepreneurial and innovative than Van, had higher averages than Van in these factors (see Appendix Table 6.2B). As shown in Tables 6.26-29, these factors played an essential role in discriminant and logistic regression analysis in discriminating and selecting different provinces according to innovative entrepreneurship levels. In other words, these results imply that Adana, the most

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innovative province, has more critical opportunities in terms of history, policy, security, geographical location, climate, accessibility and transportation.

7.1.3 How does the region-specific culture-cognitive dimension of the institutions explain the difference in innovative entrepreneurship levels between regions?

The institutions' culture-cognitive dimension refers to shared concepts that shape the nature of reality and the frames in which meaning is created (Scott, 2013). According to Alvarez and Urbano (2012), the culture-cognitive dimension reflects the cognitive structures and social knowledge shared by people in a particular location. In other words, this dimension is the result of internal interpretation processes in relation to external or environmental cultural frameworks. Therefore, individuals' behaviour depends on the interpretation of their context and the consensus within the society in which they live. At this point, Scott (1995) argues that the reference culture has a significant role in defining individuals' beliefs, virtues, and values. In that sense, many scholars suggest that there are substantial differences in the availability of knowledge about the formation and development of entrepreneurial activities across countries or regions because entrepreneurship-related knowledge can be scarce in areas where entrepreneurship activities are constrained (Manolova et al., 2008; Bruton et al., 2010; Lim et al., 2016).

Since the culture-cognitive dimension expresses the fundamental beliefs, knowledge, and skills required to start an entrepreneurial activity in a particular cultural context (Arasti et al., 2012), it may vary significantly among provinces with different cultures, norms, and beliefs traditions and customs. In this regard, to reveal how the culture-cognitive dimension affects innovative entrepreneurship activities, the following three hypotheses were identified: Firstly, "*it is expected the level of innovative entrepreneurship will be higher in regions where entrepreneurial knowledge, skills and experience are more widespread and risk-taking and uncertainty bearing are higher*". Secondly, "*innovative entrepreneurship levels are*

expected to be higher in provinces with strong networks, characterised by a high level of trust, knowledge sharing and collaboration/cooperation". Lastly, *"the entrepreneurial culture and role models play a key role in directing individuals to new enterprises. For these reasons, innovative entrepreneurship level is expected to be higher in cities where the entrepreneurship culture is high and successful entrepreneurs are accepted as role models"*.

Both qualitative and quantitative findings of the study strongly support the hypotheses described above. In the following sections, discussions on the research findings of both qualitative and quantitative sections are presented (see Table 7.3).

Institutionalisation and innovation capacity of companies

Qualitative findings defined the 'existence of traditional corporate structure and institutionalisation problem' as one of the most important factors preventing companies from being innovative in all cases. According to the in-depth interviews and descriptive statistics illustrated in Appendix Table 6.1C, the overwhelming majority of firms operating in all cases are family businesses, meaning that almost all of these firms are still managed by the head of the family in traditional ways. Participants suggested that most companies in the provinces cannot adopt a modern and institutionalised structure, as the family heads still try to remain faithful to the production methods they saw from the ancestors/grandparents. Also, the execution of many tasks such as production, auditing, marketing, transportation, and accounting by the company owners was defined as significant obstacles preventing the companies' institutionalisation in all four cases.

Both research phases are highly compatible with the findings of many previous studies in Turkey and different contexts. Studies have identified the founder's fear of losing control and executive power over the firms and the lack of trust for professionals as the most critical obstacles to a transformation from a traditional production and management structure to a modern and institutionalised structure in family companies (Kaya and Alpkan, 2012; Gür and Alayoglu, 2017; Cirpan and Alayoglu, 2018).

Table 7.3 Comparisons of the Qualitative and Quantitative Research Findings on the Culture-cognitive Dimension

Dim. Ins.	Qualitative Research Findings		Quantitative Research Findings
	Main Themes	Categories	Factors/Variables
Culture-cognitive Dimension	Theme III: Culture-cognitive institutions that support or prevent the formation of perception on innovation and entrepreneurship.	• CTG1: Innovation perception and capacity • CTG2: Institutionalization and innovation capacity of companies • CTG3: Inter-company networks • CTG4: Entrepreneurial culture • CTG5: Perception of entrepreneurship • CTG6: Industrial structure (only Bolu)	• Institutionalization and innovation capacity. • Networks (trust, knowledge share, and cooperation) among entrepreneurs. • Dissemination of the entrepreneurship culture (media impact). • Role models. • Individual risk-taking and uncertainty-bearing tendency. • Entrepreneurial skills, knowledge, experience.

Qualitative and quantitative research findings also revealed that firms in all cases generally have low innovation and knowledge capacities and thus produce with low technological level and added value. For example, it was strongly emphasised that entrepreneurs do not attach enough importance to R&D and innovation works and feasibility studies before producing a new product. Also, due to weak R&D and innovation culture and the prevalence of profit-oriented thinking, ideas such as innovation intentions or budgeting for innovations are rare among entrepreneurs. This situation may be strongly related to the financial capacity of entrepreneurs, as

discussed in the regulative dimension section. Since most entrepreneurs have weak financial resources, they may not have the economic powers to support R&D and innovation activities outside of their daily operations. For similar reasons, companies may not have the ability to employ engineers, one of the key actors of innovation and R&D activities. Although all of the companies interviewed during the quantitative research phase were in high or medium-high technology classes, about 45 per cent of them did not employ engineers. These findings of the study also match those of OECD (2004) on SMEs in Turkey. According to this report, a significant number of SMEs in Turkey have insufficient financial resources for innovation and R&D, so they are outdated and often produce low added-value.

However, the quantitative analysis findings showed statistically significant differences between provinces regarding institutionalisation and innovation capacity. Although these results do not support qualitative findings, ANOVA results revealed that the institutionalisation and innovation capacity in Adana, which is the most innovative province, was significantly higher than the other three provinces, as expected. On the contrary, Van, the province with the lowest innovative entrepreneurship level, had the lowest average (see Appendix Table 6.2C). Consequently, firms' institutionalisation and innovative capacity played a vital role in separating provinces with different levels of innovative entrepreneurship (see Table 6.26-29).

Inter-company networks

In the literature, networks are defined as a critical factor in the formation, growth and sustainability of entrepreneurship and innovation activities. Research has identified networks as an essential means of accessing the information, workforce, resources and services required by entrepreneurs and obtaining diverse and abundant business opportunities for them (Koo and Cho, 2011). Another study examining the impact of networks on innovation activities has indicated that highly clustered networks facilitate disseminating tacit, non-codified, and sophisticated knowledge (Galaso and Kovarik, 2018).

However, the findings revealed that networks between firms were weak in all four cases, contrary to the importance attributed to networks in the literature. These outcomes are highly consistent with the findings of Karadeniz (2010) showing that Turkey (36.43%) has an average lower than the average score of the efficiency-driven countries (45.34%) in terms of networks among entrepreneurs. According to in-depth interviews and descriptive statistics, knowledge sharing and dissemination among entrepreneurs in all four provinces are quite limited, although it is a critical source of innovation activities.

The findings also indicated that the culture of cooperation/partnership is quite weak among entrepreneurs or companies in four provinces due to fierce competition and low trust among firms. A similar result was found by Sonmez and Toksoy (2014) and Doğan (2015) suggesting that when the structures of enterprises in Turkey are examined, it is impossible to say the partnership culture has developed very much due to both economic reasons and the lack of partnership culture. However, it is worth noting that only participants in Adana reported increasing cooperation/collaboration among companies in recent years.

Contrary to these findings, the literature reveals that both trust and cooperation play a critical role in developing innovative entrepreneurial activities. According to Lee and Law (2016), trust contributes to innovation in various ways. First, trust reduces monitoring costs and the need for written contracts by eliminating potential malevolence, incompatibility and suspicion among partners (Knack and Keefer, 1997). Thus, lower monitoring costs will enable entrepreneurs to allocate more resources to innovative activities. Second, members of society, including investors, take more risks in environments where there is more trust, so that high trust encourages investors to invest more in R&D projects (Akcomak and ter Weel, 2006). Third, trust allows knowledge sharing and cooperation among firms to start innovative projects. Thus, continuous cooperation based on trust encourages companies to start more risky and radical innovative projects. Finally, high trust in the legal system and government institutions motivates innovative activities because

entrepreneurs believe that their innovation effort will be protected in such a system (Dakhli and De Clercq, 2004).

Likewise, many scholars have highlighted the importance of cooperation/partnership in innovative entrepreneurial activities. For example, previous studies have revealed that cooperation models represent a significant dimension of the innovation process and determine the success of individuals and regions (Saxenian, 1994; Galaso and Kovarik, 2018). Moreover, Lee and Law (2016) argue that social capital significantly impacts innovation activities with the emergence of new creative ideas through inter-firm cooperation.

However, quantitative research results, which are somewhat inconsistent with qualitative findings, strongly support the arguments in the literature and the study's hypotheses. When compared to the cases, ANOVAs results suggested that Adana had significantly higher networks among entrepreneurs than the other three provinces (see Appendix Table 6.2C). The variable entitled 'network among entrepreneurs' played a positive and significant role in the separation of Adana from other provinces in discriminant function analysis (see Table 6.26-28). These results strongly support previous empirical studies showing that networks and social capital, characterised by high levels of trust, knowledge sharing and collaboration/cooperation, positively influence innovative entrepreneurship activities (Dakhli and De Clercq, 2004; Akcomak and ter Weel, 2006).

In a nutshell, e research findings demonstrating the importance of networks for innovative processes showed that trust, knowledge sharing and cooperation play crucial roles in determining innovative entrepreneurship levels.

Entrepreneurship culture

In recent years, particular focus has been on entrepreneurial culture in new business formation. Wennekers and Thurik (1999) point out that as an essential component of the regional culture, an entrepreneurial culture stimulates the formation of regional economies and clusters, leading to an increase in innovative start-up activities.

Similarly, entrepreneurial culture is crucial to ensure the successful progress of entrepreneurial activities in a region (Van Der Zwan et al., 2013). Previous research has shown that the absence or presence of an entrepreneurial culture or climate in a region may play a critical role in the subsequent entrepreneurial activity (Audretsch et al., 2010).

The results strongly support these arguments because the entrepreneurial culture was found weaker in provinces with relatively low levels of innovative entrepreneurship such as in Van, Elazığ and Bolu. In contrast, it was found more persuasive in Adana, the province with the highest innovative entrepreneurship level. However, qualitative findings showed that the previous three provinces' entrepreneurial culture has begun to increase with the state's training and financial support. On the other hand, as mentioned above, being an important trade and management centre in the past and having cultural diversity has led Adana to have a more robust entrepreneurial culture.

The findings of the quantitative phase strongly support the results of the first phase of the study. According to MANOVA and ANOVAs results, the dissemination of entrepreneurial culture and entrepreneurial skills, knowledge and experience were significantly higher in Adana than in other provinces (see Appendix Table 6.2C). In discriminant function analysis, while the former factor positively contributed to the separation of Elazığ, which is more entrepreneurial than Van, the latter factor had a positive contribution to the discrimination of Adana, the most innovative province (see Table 6.26-28). All these results mean that the entrepreneurial culture and skills, knowledge and experience are influential in the region having higher levels of either innovative or non-innovative entrepreneurship. This result supports the previous research findings showing that Turks are confident about the knowledge, skills and experience necessary to start a new business (Karadeniz, 2010).

Furthermore, descriptive statistics indicated that only the respondents in Adana agreed that the entrepreneurial culture has developed sufficiently in their provinces (see Appendix Table 6.1C). On the other hand, respondents in all provinces either

agreed or strongly agreed that having entrepreneurs from the family or close environment plays a vital role in an individual being an entrepreneur. There have been consistent studies indicating that the "parent effect" can explain the impacts of entrepreneurial culture on regional entrepreneurship (Davidsson and Honig, 2003).

Descriptive statistics also revealed that respondents in all provinces either disagreed or strongly disagreed that for the formation and development of innovative entrepreneurship activities, adequate training was provided at universities and other educational facilities, enough competitions and social events were organised, and enough attention was paid at the media or other media organs. This result contradicts the results of the studies drawing attention to the importance of educational institutions, the media and social activities such as competitions in the development of entrepreneurial culture (Reynolds et al., 1999; Stenholm et al., 2013; Khobdeh, 2017). Also, in her study, Karadeniz (2010) points out that Turkish experts evaluate the quality and quantity of university and vocational education negatively, indicating that higher education does not provide sufficient support to start a new firm or grow an existing one.

Perception of entrepreneurship

Researchers believe that individuals' entrepreneurship intentions, abilities and perceptions differ significantly from society to society due to the differences in culture, norm, belief, value, tradition and code of conduct (Krueger et al., 2000; Arenius and Minniti, 2005; Dobler, 2011; Lee and Law, 2016; Khobdeh, 2017). Therefore, significant differences may arise in the context of perception of entrepreneurship among provinces. The perception of entrepreneurship is dealt with here in two ways: the first is related to individuals' risk-taking tendency, while the other is related to accepting entrepreneurs as role models.

Frank Knight (1921), in his seminal work 'Risk, Uncertainty and Profit', identifies the entrepreneur as the risk-taker in uncertainty. In this regard, many studies show that individuals' risk-taking levels significantly determine their entrepreneurial tendencies (Busenitz, 1999; Grilo and Thurik, 2005; Alvarez and Urbano, 2012).

Therefore, it can be expected that regions with institutions that encourage individuals to take risks will have a higher level of innovative entrepreneurship than other regions.

The qualitative and quantitative phases results revealed significant differences between provinces in terms of individuals' willingness to take risks. Participants in Elazığ and Adana found that individuals in their provinces have higher risk-taking tendency levels to become entrepreneurs, while those in Van and Bolu reported low risk-taking tendencies. These arguments supported quantitative findings suggesting that Adana, the province with the highest innovative entrepreneurship level, had significantly greater 'individuals' risk-taking and uncertainty bearing tendency' than other provinces. The results also revealed that Bolu had significantly lower individuals' risk-taking and uncertainty bearing tendency than Elazığ (see Appendix Table 6.2C). As expected, risk-taking propensities were found to be higher in regions with relatively higher levels of entrepreneurship.

Furthermore, the discriminant and multinomial logistic regression results supporting both these results and previous empirical findings showed that the higher individuals' risk-taking tendency contributed positively to the discrimination and selection of Adana against the other provinces. Moreover, descriptive statistics showed that only participants in Adana agreed with the statement that individuals do not hesitate to decide and take risks in an uncertain environment while starting a business (see Appendix Table 6.1C).

On the other hand, Dvouletý and Lukeš (2017) suggest that to ensure that entrepreneurship is seen as a prestigious career in society, entrepreneurship needs to be perceived positively. Research shows that successful entrepreneurial stories and role models motivate individuals with entrepreneurial intent and reduce their fear of failure (Wyrwich et al., 2016). However, significant perceptual differences were identified in terms of recognising entrepreneurship as a role model and a career choice among the provinces. According to the in-depth interviews, successful entrepreneurs are seen as role models by individuals in the other three provinces

other than Van. These results are partly affirmed by the findings of the quantitative phase of the study, including some surprising results. For instance, according to ANOVAs results, Adana, which has the highest innovative entrepreneurship level, has the highest role model average as expected. Nevertheless, contrary to expectations, Van, which has the lowest innovative entrepreneurship level, does not have the lowest average. The main reason for this outcome in Van may be related to the fact that individuals in the city know each other closely due to the prevalence of the rural culture.

In summary, both qualitative and quantitative findings have shown that entrepreneurship perception, which differs significantly among provinces, plays an essential role in determining the provinces' innovative entrepreneurship level.

CHAPTER 8

CONCLUSION

This research, which deals with how and to what extent the regulative, normative and culture-cognitive dimensions of institutions determine the provinces' innovative entrepreneurship levels, in two separate phases, qualitative and quantitative, has obtained quite important and comprehensive findings. Findings that support the main hypothesis of the research reveal that all three dimensions of institutions play effective and critical roles in determining the innovative entrepreneurship levels of the provinces. Namely, provinces with different institutional characteristics have conditioned their innovative entrepreneurship activities differently. In other words, the distribution of institutional factors that support or prevent innovative entrepreneurship differs significantly by provinces, thus causing them to have different levels of innovative entrepreneurship. The primary purpose of this chapter is to conclude the research findings obtained from both qualitative and quantitative phases.

This chapter includes four sections: the first section concludes the research findings, while the second section provides policy recommendation emanating from the research results. The third section tries to reveal how this research contributes to the theoretical and empirical literature. Following this, the fourth section covers the limitations of the study and offers suggestions for future studies.

8.1   Conclusive Remarks

Since the early 1990s, institutions have been frequently used to explain economic development and growth differences between countries or regions. Numerous studies argue that formal (rules, laws, regulations, policies, etc.) and informal (culture, beliefs, traditions, customs, norms, values, etc.) institutions owned by

countries and regions are critical in explaining their entrepreneurship, innovativeness, and hence economic development levels (Baumol, 1990; Scott, 1995; Urbano and Turró, 2013; Urbano and Alvarez, 2014; Urban and Ratsimanetrimanana, 2019, and so forth).

Based on the three-dimensional classification of Scott (1995), this research attempted to understand and explain how and to what extent the three pillars/dimensions of institutions, such as the regulative (rules, laws, regulations, and government policies), normative (traditions, conventions, codes of conducts, beliefs, habits, norms, values, and attitudes) and culture-cognitive (shared social knowledge) dimensions determine the innovative entrepreneurship levels of the provinces. To demonstrate the impact of these three dimensions of institutions on the innovative entrepreneurship level, we selected cases/provinces with different innovative entrepreneurship levels. The findings obtained from "the Exploratory Sequential Mixed Method", including both qualitative and quantitative research phases, strongly confirmed all the thesis hypotheses and previous findings in the literature. Further, the results revealed that each institution's dimension has a critical role in determining the provinces' innovative entrepreneurship levels. Findings from testing the hypotheses provide striking information about the impact of each dimension of institutions on regional innovative entrepreneurship activities.

In this regard, both qualitative and quantitative findings on the *regulative dimension* revealed that this dimension has many destructive/preventive effects on innovative entrepreneurship activities across the provinces. First, as frequently highlighted in the literature (i.e., Klapper et al., 2006; Veciana and Urbano, 2008; Aidis et al., 2012; Urbano and Turró, 2013; Bozkurt, 2019), burdensome and excessive bureaucratic procedures are critical barriers to innovative entrepreneurship. Although after the 2000s, bureaucratic obstacles to entrepreneurship in the country have been reduced by acting according to the OECD and the EU's frameworks, bureaucratic procedures currently remain as critical preventive factors to innovative entrepreneurship activities. The research has identified the burdensome regulations, high initial costs, and bulky, strict and prescriptive government institutions as some of the most critical

problem areas for innovative entrepreneurial activity in Turkey. Similarly, the discriminatory attitudes encountered during the implementation of bureaucratic processes, especially in cities with low levels of innovative entrepreneurship, that is, a friend-dude relationship, is another problem restricting individuals from starting innovative activities.

On the other hand, with the development of information and communication technologies (ICTs), many bureaucratic processes have been transferred to the online environment, which is shown as an essential and facilitating step. Nevertheless, the weakness of the technological knowledge and capacity of entrepreneurs prevents these procedures from functioning effectively. Also, laws, regulations and policies prepared with a central mindset do not consider the local characteristics, leading to significant problems in implementing bureaucratic processes. That is, the assumption that all provinces have the same features leads to a conflict between theory and practice. In other words, the one-size-fits-all approach prevents the bureaucratic processes from functioning effectively.

Second, financial resources, an indispensable part of start-up activities, emerged as a significant sub-dimension of the regulative dimension. Many studies on entrepreneurship argue that the availability and easy access of financial resources is critical to starting a new business and growing an existing firm (Karacaovali, 2016; Rusu and Roman, 2017; Kumar and Borbora, 2019). However, inadequate and hard-to-access financial capital is a common problem for entrepreneurs. The study results showed that although they have innovation-driven entrepreneurship at different levels, the presence of, and access to, financial capital is a fundamental problem for entrepreneurs. Previous research in the Turkish context has reached similar findings (e.g. Karadeniz, 2010; Sonmez and Toksoy, 2014). The results reveal that entrepreneurs often have limited equity capital and the amount and variety of additional financial resources such as angel investors and venture capital. Notably, it is worth mentioning that entrepreneurs' financial mechanisms as financial resources outside the bank are insufficient. The findings also suggest that the culture of additional financial support mechanisms, such as angel investor and venture

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capital, has not yet developed in the country and that these concepts are quite remote to entrepreneurs in the provinces. Besides, entrepreneurs sometimes experience serious difficulties even in accessing bank loans due to specific reasons such as security issues and geographical obstacles.

However, quantitative research findings indicated that provinces' access to financial capital plays a critical role in determining their innovation levels. In this regard, entrepreneurs in the most innovative provinces have easier access to financial resources than other provinces. Quantitative research results suggest that the abundance and easy access to financial resources play a vital role in a region's higher level of innovative entrepreneurship.

Third, findings reveal that the support and incentive system implemented in the country plays a significant role in explaining regional entrepreneurship level. As mentioned before, the primary purpose of the country's support and incentive system is to eliminate the economic development level disparities between the provinces. For this reason, in the current incentive regime, six different categories have been created by considering the provinces' socio-economic development levels, and the incentives and supports are given to the provinces according to their categories. In other words, provinces in underdeveloped categories (e.g. 5th or 6th Region) receive higher and long-term supports and incentives compared to provinces in more developed categories (1st and 2nd Region). However, as determined in numerous studies, the incentives and public supports in Turkey have not been able to achieve the desired result (see Yavan, 2010; Bakırcı et al., 2014; Yılmaz, 2016; Dağ and Çelik, 2019). For example, Bakırcı et al. (2014) suggest that relatively more developed and industrialised provinces in the west of the country have higher efficiency, while Dağ and Çelik (2019) point out that incentives and supports are concentrated in certain regions.

More or less similar findings were found in this study. The findings revealed that the current incentive regime has diverse effects on provinces with different innovative entrepreneurship levels. The current incentive system positively contributes to less-

developed regions in which the innovative entrepreneurship level is relatively low. In contrast, it has severe negative impacts on relatively more developed provinces where innovative entrepreneurship level is higher. At first glance, the contribution of the incentive system to less developed provinces seem a positive development. But, its adverse effects on more developed provinces lead to questioning this opinion because these provinces have begun to lose their old attractiveness. Indeed, higher rates and long-term investment supports and incentives given to relatively less developed provinces adjacent to developed provinces have caused them to lose their attractiveness in investments. However, eliminating this contradiction created by the incentive system may help provinces develop healthier and attract more innovative investments.

Nevertheless, the relationship between the incentive system and innovation is weak, as most current incentives and supports aim to support non-innovative activities. F For example, most of the support provided by KOSGEB goes to non-innovative activities in the manufacturing and service sectors. In addition, when drawing attention to the deficiencies and inaccuracies in the current incentive system, incentives and supports are sometimes used beyond their purposes. Since incentives and supports do not have a trustworthy assessment criterion, they may go to the wrong people or projects. Similarly, ignoring existing firms little more than new ones is another significant mistake of the current incentive regime.

Lastly, the findings illustrated that local actors and social organisations do not sufficiently support the formation and development of innovative entrepreneurial activities. In general, regardless of the cases' innovation-driven entrepreneurship levels, local organisations, municipalities, NGOs, professional chambers, universities, and research centres were found quite inadequate to promote innovative entrepreneurial activities. For instance, innovative entrepreneurs in all provinces expressed dissatisfactions with these organisations. The results also revealed that the coordination and harmonisation between institutions were quite bad in the past, but this has recently improved. Increasing competition between regions and the growing importance of innovation and technological developments may have forced local

organisations to work in harmony. However, conflicts between institutions still continue in some provinces, especially since central and local governments are from parties with different ideologies. Thus, it seems quite tricky for organisations in such provinces to work in coordination and harmony. While such a situation negatively affects the development of cities, it also causes the investments and supports required for the development of innovative entrepreneurship to be delayed, slowed down or moved to other cities.

The research findings illustrated that the normative dimension, consisting of codes of conduct, norms, morals, values, beliefs, habits, attitudes, conventions, traditions, culture and interactions, plays a quite effective role in determining the levels of innovative entrepreneurship. Since each province has its normative values, province/region-specific normative institutions play a more influential role in explaining innovative entrepreneurship level differences between provinces than other institutions' dimensions. For this reason, a wide range of preventive and supportive factors have been identified related to the normative dimension of institutions. In this sense, the following inferences can be made in the findings of the study. First, provinces with a collaborative society could have a higher level of innovative entrepreneurship. In other words, innovation-oriented entrepreneurship activities may be more abundant in communities with low envy, jealousy, and selfishness among individuals and high production culture, working and trade. Societies with such normative values have stronger solidarity and collaboration and higher levels of information exchange. Therefore, they provide more favourable environment that supports the creation of innovative and creative ideas. Also, there are abundant arguments in the literature suggesting that collaborative societies that promote the dissemination of knowledge, trust, cooperation and solidarity can be more innovative (see Dakhli and De Clercq, 2004; Akcomak and ter Weel, 2006; Lee and Law, 2016; Khan et al., 2017).

Second, openness to new ideas and information is strongly associated with a high level of regional innovation-driven entrepreneurship. This finding points out that innovative entrepreneurship can be relatively higher in societies with more tolerant

customs, traditions, beliefs and values against innovations and changes. Simultaneously, this result implies that innovative and creative ideas and formations can be more diverse and more abundant in societies where traditionalism, conservatism and family and society pressure are relatively less. These arguments are highly compatible with several previous studies suggesting that openness triggers innovation and creativity (e.g. Florida, 2002; Audretsch et al., 2010; Brixy et al., 2017; and so forth).

Third, the level of innovative entrepreneurship activities is higher in provinces where diversity and tolerance are higher. As emphasised in numerous studies in the literature, there is abundant human capital and information needed for innovative and creative thinking in societies with diversity and multiculturalism (Florida, 2002; Qian et al., 2013; Gick and Grau, 2018). Similarly, societies that do not exclude foreigners but value diversity and are open to innovations, changes and new ideas are more advantageous in innovative entrepreneurship. In other words, since tolerance and openness to diversity and change imply low barriers to entry, cities with such characteristics may attract higher levels of talented and creative individuals.

Lastly, provinces with a higher fear of failure have lower innovative entrepreneurship levels, as highlighted in the literature (e.g. Urbano and Alvarez, 2014). As noted in previous studies, individuals are more likely to start an innovative activity in cultures that tolerate individuals' failures and encourage them to innovate (Karadeniz, 2010; Fuentelsaz et al., 2018). The results also revealed that innovative entrepreneurship activities are rare in cities with higher saving culture. In other words, the increasingly saving behaviour in individuals, especially with the fear of failure, pushed them to evaluate their earnings in banks rather than starting a new business. Consequently, given the banks' guarantee gains, individuals may avoid engaging in an innovative activity due to risks associated with start-up activities.

On the other hand, demographic and socio-economic constraints and opportunities, which are closely related to the normative dimension, significantly impact the

innovative entrepreneurship activities of the provinces. First, individuals' income level plays a critical role in determining the provinces' innovative entrepreneurial activity levels. In other words, the additional income that individuals obtain from agriculture and animal husbandry or other activities curbs them from starting a creative activity. These findings of the study contradict the studies that find a positive relationship between income level and entrepreneurship in the literature (Kumar and Borbora, 2019), but they are compatible with the studies that find the relationship between these two as negative (Roman et al., 2018). Second, the level of education and urbanisation has been vital in determining the regional innovative entrepreneurship level. For example, previous studies found that education or human capital is positively linked to entrepreneurship (van der Zwan et al., 2013; Dvouletý and Mareš, 2016). Several researchers argue that human capital or education may help individuals seize job opportunities in the market by increasing their entrepreneurship skills (Kumar and Borbora, 2019; Urban and Ratsimanetrimanana, 2019). Likewise, research shows that since urbanisation means diversified demand, precious human resource and a dynamic market, it can provide entrepreneurs with a more favourable business environment (Stenholm et al., 2013; Audretsch and Belitski, 2017).

The regional/political location is the last theme that emerged under normative institutions. The findings of the study showed that the provincial and political location plays a pivotal role in explaining regional innovative entrepreneurship level, as highlighted in the previous studies (Baumol, 1990; North, 2005; Acemoglu et al., 2004; Knowles and Weatherston, 2006). In fact, the results once again brought to mind the phrase 'geography is density'. In that sense, having a historically and geographically critical strategic position is essential for spreading innovative entrepreneurial activities in the province. In other words, having a significant historical background, a strategic geographical location, suitable climatic conditions, fertile underground and above ground resources and being in a safe region provide substantial economic advantages to the provinces. Therefore, it is not surprising that the provinces with more advantages in this sense have higher levels of innovative

entrepreneurship activities. Also, the distance to raw materials and markets, causing high transportation costs, adversely impacts the provinces' socio-economic development levels and entrepreneurship environment. For this reason, provinces with lower transportation costs are more attractive to innovative activities.

Finally, the political environment in a province deeply affects the entrepreneurship ecosystem of that province. In other words, if politicians, political parties and their representatives work together in harmony and coordination for the interests of the region, it would be inevitable to create the appropriate climate for innovative and creative activities in that province. The opposite situation may also happen, that is, if there is a conflict between parties and politicians with different political ideologies, it would be quite challenging to talk about a suitable business environment for the development of innovative entrepreneurship activities.

In this study, essential information regarding the last dimension of institutions, ***the culture-cognitive dimension***, referring to the public's collective understanding of social reality, shared cultural knowledge, was obtained. By investigating this dimension of institutions, we have the chance to more clearly reveal how individuals' entrepreneurship and innovation perceptions vary among the provinces. Indeed, the findings revealed significant similarities and differences among the provinces regarding individuals' perceptions and approaches to innovation-driven entrepreneurial activities. First of all, the research findings underlined that innovative entrepreneurship is vital for sustainable economic growth and development in a globalised and competitive world. However, despite being a significant player in the increasingly competitive environment, innovative entrepreneurship activities are not at the desired level for all provinces.

Secondly, firms' institutionalisation and innovation capacity play an essential role in determining the provinces' innovative entrepreneurship levels. In general, firms have low institutionalisation and innovation capacities, although firms in relatively more innovative cities have higher institutionalisation and innovation capacity. In this regard, the traditional corporate structure and institutionalisation problems are the

most critical obstacle for companies in all provinces to be more innovative. The research showed that most of the firms are family businesses, and founders have serious reservations about delegating their power to professionals because they do not want to renounce their authority over the firm, but also have problems relying on others, as highlighted in many previous studies (e.g. Kaya and Alpkan, 2012; Gür and Alayoglu, 2017; Cirpan and Alayoglu, 2018). For this reason, companies operating in all provinces generally have low innovation and knowledge capacity, which leads to the production of low technology and value-added products. Moreover, firms' low financial power and unplanned and sudden growth desire are other obstacles restraining them from starting more innovative activities. Also, the subsidiary industry prevents firms from being more creative and innovative because the overwhelming majority of the companies working in the subsidiary industry are producing based on the parent company's orders. So, they often do not need to start an innovative venture.

Thirdly, inter-company networks is another critical factor that explains the levels of innovative entrepreneurship in the provinces. The findings showed that inter-firm networks are more intense in provinces with higher levels of innovative entrepreneurship, as found in many previous studies (Fukuyama, 1995; Akcomak and ter Weel, 2006; Leyden and Link, 2015; Lee and Law, 2016), but they revealed that networks among firms or entrepreneurs in all provinces are rather weak. Contrary to the emphasis in the literature, knowledge spillover/sharing has remained at very low levels due to the fierce competition and low trust among firms. Moreover, the results indicated that due to the reasons mentioned above or previous unsuccessful experiences, the culture of cooperation/partnership has not developed sufficiently among companies. Thus, limited interaction between firms, namely weak networks, can prevent firms from accessing new knowledge, financial resources and human capital, critical for the emergence and development of innovation activities.

Fourthly, there are significant variations among provinces regarding the entrepreneurial culture, which is crucial to promote innovation-driven

entrepreneurship activities. As expected, the entrepreneurial culture is relatively higher in regions with higher levels of innovative entrepreneurship activities, which is highly consistent with the previous studies (e.g. Audretsch et al., 2010; Van Der Zwan et al., 2013; Fritsch et al., 2019a,b). According to many researchers, media and education facilities play a critical role in spreading entrepreneurship culture, that is, to instil entrepreneurship awareness in the society and to develop a positive attitude towards it (Reynolds et al., 1999; Verheul et al., 2002; Stenholm et al., 2013; Urbano and Turró, 2013). In parallel, findings demonstrated that individuals' entrepreneurship skills, knowledge, and experience play a crucial role in determining the provinces' innovative capacity. These results implied that the more entrepreneurial skills, knowledge and experience, the higher the innovative entrepreneurship level.

Lastly, significant differences were detected in the context of individuals' entrepreneurship perceptions among the provinces. Willingness to take the risk was found significantly higher, particularly in provinces with relatively higher innovative entrepreneurial activities, as suggested by several scholars (e.g. Alvarez and Urbano, 2012; Fritsch and Wyrwich, 2014; Kibler et al., 2014; Fritsch et al., 2019a). Likewise, significant perceptual differences were found between provinces regarding recognising entrepreneurs as a role model and career choice. As expected, entrepreneurs were seen as role models the most in the province with the highest innovative entrepreneurship level. Consistent with this, many previous studies have shown that entrepreneurship intention may be more abundant in societies where entrepreneurship is considered as a career or role model (Wyrwich et al., 2016; Dvouletý and Lukeš, 2017).

To sum up, the findings allow us to make important inferences regarding the roles of three dimensions of institutions in determining the innovative entrepreneurship levels of provinces. First, results revealed that although Turkey has a unitery state structure, the effects of the regulative institutions differ considerably across regions with different innovative entrepreneurship levels. Second, compared to the other institutional dimensions, regions with different innovation-driven entrepreneurship

levels differentiated more in terms of normative dimension. Third, interestingly, provinces, which differ considerably in normative institutions, have significant similarities in culture-cognitive institutions. Finally, the results raise Ibn Khaldun's question of whether geography is destiny because less innovative have more geographically disadvantages than more innovative regions.

8.2   Policy Recommendations

The research results describe potential areas of intervention at different scales to encourage and develop the formation of innovative entrepreneurship activities for policymakers. First, to ensure sustainable national economic development and growth in an increasingly competitive environment and enhance creative and technological capacity, some institutional policies need to be changed, revised or developed at the national level. Second, institutional innovations and interventions are needed at the provincial level to improve the provinces' innovative entrepreneurial capacities and increase their socio-economic development levels. Finally, there is a need for institutionalisation efforts at the individual or firm level to achieve the above two goals and improve individuals' perception of innovation and entrepreneurship. The recommended policies for each level are as follows:

8.2.1   Policy Recommendations at National Level

The following policies, including the regulative, normative and culture-cognitive dimensions of institutions at the country level, are recommended to provide a suitable business environment for entrepreneurs and increase their innovativeness capability. However, since it is more formal and directly linked to the state than the other two dimensions of institutions, policy recommendations regarding the regulative dimension outweigh.

- Excessive and heavy bureaucratic burdens remain one of the most critical obstacles to innovative entrepreneurship. Even though the revisions made to

comply with the OECD and EU's entrepreneurship policies in recent years have decreased the number of bureaucratic procedures and time frame in Turkey, entrepreneurs complain that bureaucratic processes are still cumbersome and the initial costs are high. Therefore, reducing the number and cost of bureaucratic procedures is essential to create a favourable business environment. Similarly, eliminating discriminatory attitudes encountered in implementing bureaucratic processes and application differences between provinces can contribute to national and regional innovation systems while providing a fairer and more stable business environment.

To realise these goals and attract more innovative intentions, it is vital to expand the "One Stop Office" (Tek Durak Ofis) system, which is put into practice in large metropolitan cities, by bringing together many public institutions and facilitating the procedures required for investors.

- Finance is one of the most critical sources of starting a new business, so it is impossible to think of entrepreneurship independently from finance. However, in this study, the financing constraint is one of the main obstacles to entrepreneurs and individuals intending to become entrepreneurs. Therefore, it is of great importance to facilitate entrepreneurs' access to financial resources to create a new business, grow the existing firms or engage in innovation and R&D activities. First, a low-interest medium or long-term starting capital should be created. Care should be taken that entrepreneurs in all provinces have equal access to this resource, provided by the Ministry of Treasury and Finance or KOSGEB. Similarly, the type and amount of financial resources need to be increased for entrepreneurs intending to grow or engage in an innovation and R&D activity. Although various supports are provided to entrepreneurs by different state institutions such as TUBITAK, KOSGEB, and the Ministry of Industry and Technology,

the amount and type of these supports have been insufficient. Also, access to these supports is quite tricky due to the burdensome bureaucracy.

Secondly, it is crucial to increase the type and amount of additional financial resources such as angel investors and venture capital that entrepreneurs can apply outside the bank. Although there are additional financial resource options in the country, these mechanisms are not well known and used adequately by entrepreneurs at the local level. The most important reasons for this could be that the investors who provide these supports have high levels of risk avoidance or fear of failure. Also, such financial support options are concentrated in major metropolitan areas such as İstanbul, Ankara and İzmir, and they mostly prefer to support investments with lower risk. Therefore, the creation of additional government-led financial resources will greatly facilitate entrepreneurs to meet their financing needs.

Finally, the state can play an intermediary role between the investor and the entrepreneur, with an office to be established in each province. For example, there are a lot of people in the country who have money but no idea, but there are also lots of people who have an idea but no money. This office can bring investors and entrepreneurs with creative ideas and a support system and help them invest together. In this way, gold or foreign currency savings, called mattress saving, can be brought into the economy with innovative projects.

- State supports and incentives are crucial tools used by governments to eliminate development disparities between regions and stimulate the economy. However, in this study, critical problem areas were found about the effect of current state supports and incentive regime applied in Turkey. First, the rate of benefiting from state supports and incentives varies significantly according to the provinces. In other words, some provinces are positively affected by supports and incentives, while others are negatively affected. For example, if one of the two neighbouring provinces receives lower incentives than the other, this province will benefit less from

incentives. Indeed, as in some cases in this study, this province may be adversely affected by incentives. Due to the nearby provinces' high incentive rate attracting a large part of the investments coming to the region may cause this province to lose its attractiveness. Thus, this province may not receive a sufficient share of incoming investments and may even lose existing ones, which may lead to the socio-economic collapse of the province.

For this reason, it is essential to review the pros and cons of the current incentive regime and the way it is put into practice by conducting a cost-benefit analysis. Based on the findings from the cost-benefit analysis, policymakers will be able to easily demonstrate to what extent state supports and incentives contribute to the country and provinces' economic growth, development, innovation, and technological progress. Thus, they can identify the deficiencies and inaccuracies in the support mechanisms and prevent using these supports beyond their intended purposes.

Second, many public institutions and private sector organisations in Turkey are directly or indirectly involved in the support and incentive system. The fact that state supports and incentives are implemented in a very scattered administrative structure and by institutions and organisations with very different structures prevent the collection of healthy information, which prevents the effective and appropriate use of supports and incentives. It is, therefore, a significant need to coordinate different support programs across the public sector. In other words, it is vital to manage the support systems from a single centre with a traceable, transparent and integrated approach. I

Third, the complexity of the incentive system and bureaucracy burden prevents investors from investing. Similarly, constant and frequent changes in legislation and responsible institutions regarding support and incentives avoid collecting sound information and keeping regular records about support mechanisms, which reduces the effectiveness of the incentive system and makes it difficult to perform a healthy cost-benefit analysis. For this

reason, it is of great importance to establish stable and integrated legislation in the incentive system in line with EU state aid rules. In other words, a small, understandable and straightforward law-based incentive system implemented with strong coordination will trigger more investments.

Fourth, Turkey's support and incentive system is greatly influenced by the decisions of the political authority. Incentives used as an expansionary fiscal policy tool, especially in the pre-election periods, often reflect political preferences rather than targeting economic productivity and efficiency (Takım and Ersungur, 2018). For this reason, it is of great importance to review the legal legislation to prevent the incentives from being wasted for the sake of political goals.

Lastly, most entrepreneurs in different regions or provinces are unaware of what kind of support is provided for which sector and product. A wide range of information and publicity activities are needed to increase the awareness of entrepreneurs about supports. For this reason, it is crucial that government agencies, such as KOSGEB, the Ministry of Industry and Technology and Development Agencies, organise informational meetings about the supports that entrepreneurs can apply.

- Central and local government representatives/institutions and social organisations (chambers of commerce and industry, trade associations, and NGOs), which are the regulative dimension implementors and auditors, are the main responsible bodies for creating a favourable business environment. Coordination and harmony between public or private sector organisations in a city and how government agencies enforce laws and rules play a crucial role in determining the quality of the entrepreneurship ecosystem in that city. However, in this study, considering the situations in the provinces, it is evident that inter-institutional coordination is not strong enough. Thus, it is of great importance to establish a firm ground for communication between

public and private sector organisations and strengthen the harmony and coordination between government agencies.

- Besides, although the launch of the Public-University-Industry Cooperation (KÜSİ) project has been seen as a significant step for supporting innovative entrepreneurship activities, it is frequently emphasised that this system should be used more actively through using technoparks more effectively and supporting academics and doctorate students to run more industry-based projects. That is why the state needs to introduce and support more cooperation projects to strengthen university and industry cooperation. University-industry cooperation is considered to be more successful if these projects are prepared specific to the regions, considering the geographical conditions of the regions (such as climate, agriculture, livestock, underground and aboveground natural resources, etc.).

8.2.2   Policy Recommendations at Provincial Level

The study results showed that institutions specific to each province affect innovative entrepreneurship activities in different ways. Significant differences were discovered particularly in the context of the normative dimension and its effect on regional innovation-oriented entrepreneurship. For these reasons, it is essential to create some policies specific to each city. In this regard, the policy recommendations specific to each city are as follows:

Van:

Considering the effects of institutions specific to Van, the province with the lowest innovativeness, the following policy recommendations are presented.

- First, rurality and tribalism, in particular, micro-nationalism, political and ideological discrimination, envy and jealousy, family and social pressure, extreme traditionalism and low level of manners and culture are several significant normative values that prevent the emergence of innovative and

creative ideas, and eventually, innovative activities in Van. To reduce the adverse effects of these factors, informative and awareness-raising training, meetings, and social activities are needed throughout the province. Thus, a multi-stage and multi-actor work plan is required. Thus, many state institutions, especially the governorship, local governments, NGOs, and local actors such as tribal chiefs, imams, teachers, mukhtars, and many other actors, can prepare and implement these policies and actions.

- Second, the weak production, trade, and working culture emerging from rural life prevent individuals from being more innovative and entrepreneurial. Therefore, training and seminars led by the Ministry of National Education, Universities, KOSGEB and Chamber of Commerce and Industry are of great importance to develop an influential culture of production, trade, and work in society to direct individuals' innovative activities.

- Third, limited human resources and low education level are critical demographic factors that hinder Van's innovativeness. Therefore, an educational mobilisation should be initiated under the Provincial Directorate of National Education leadership to increase the education level of society, that is, the quality of human capital.

- Fourth, a low level of urbanisation, namely poor-quality urban infrastructure and equipment, can restrict innovative and creative ideas. Therefore, increasing the urbanisation level and the quality of urban infrastructure and equipment can positively affect innovative entrepreneurship activities.

- Fifth, since it is a border city, smuggling and illegal economic activities are quite common in Van. Thus, it is quite essential to prevent the tendency of the young population to such activities with the measures to be taken. In this manner, training and seminars that encourage entrepreneurship will make it easier for young people to seize legal and more innovative business opportunities and support their orientation to such activities.

- Sixth, Van suffers from many aspects due to terrorist incidents, so the city's image needs to be rebuilt to minimise the impact of terrorist incidents. In other words, the city should be seen as a safe place for investors. For this, it is of utmost importance that the state institutions, the private sector and the media in Van should work together to prepare projects to improve the city's image.

- Finally, distance to raw material and market places severe transportation costs on entrepreneurs in this city. Therefore, it is necessary to make transportation plans to decrease the expenses of entrepreneurs. It is of great importance that the railway line, which is planned to be built in the north of Lake Van, is completed as soon as possible.

Elazığ:

Policy suggestions for institutions that discourage innovative entrepreneurship activities in Elazığ, the province with low innovativeness and high-tech sector levels but a high level of entrepreneurship, are listed below.

- First, conservatism, piety, strong family ties, and social pressure are important normative values suppressing innovative and creative ideas in Elazığ. There is no cultural environment in Elazığ to encourage individuality and the creation of creative ideas. Children growing up under the control of a traditional and religious family cannot freely decide, so they do not tend to creative and innovative activities. For this reason, it is of great importance to establish educational and informative programs for the family, which is the first place for children to start education. In this sense, various government organisations can give parents seminars on how their attitudes and behaviours should be towards their children. Thus, children under the family's strict control can move more freely and engage in more innovative ideas and activities.

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- Second, due to the large number of state institutions and enterprises in Elazığ, the mentality of being a civil servant is quite common in society, which negatively affects individuals' tendency to become innovative entrepreneurs. To eliminate the typical civil servant mentality in society and encourage entrepreneurship, KOSGEB and many other government institutions can provide courses to inform young people about the importance of entrepreneurship.

- Third, the lack of tolerance for innovations and diversities is a reason for the lack of innovative and creative activities in Elazığ. Elimination of the lack of tolerance towards innovations, changes, and diversity in society can significantly contribute to the province's economic, social and cultural development. As suggested above, with the education that will start from the family, the behavioural patterns, value judgments, perceptions and ways of thinking in society may change over time, even if this process takes a long time.

- Fourth, most highly educated individuals migrate to large cities due to limited local opportunities. For example, there is almost no nightclub or similar entertainment venues where young people can have fun. Similarly, there are not enough cinemas, theatres, museums, art galleries, and similar places to meet the people's socio-cultural needs in the city. Thus, is evident that there is a need for venues that will meet the youth's sportive needs in Elazığ.

- Lastly, the city has precious underground and aboveground resources, so it is crucial to provide the necessary equipment and financing support to innovative entrepreneurs to transform these resources into high value-added products.

Bolu:

Many institutional factors have been identified in Bolu, the province with higher entrepreneurship and high-tech sector levels, but low innovativeness level, which

discourages the formation and development of innovative entrepreneurship activities. Several policy recommendations are below to reduce or eliminate the effects of these factors on the innovation-driven entrepreneurship level.

- First, the historical memory formed in society due to the fact that they were subjected to pressure and violence for various reasons in the past prevents the people of Bolu from being more innovative and entrepreneurial. For this reason, policymakers should focus on policies and measures stimulating society to be more optimistic and extroverted while removing traces of bitter historical experiences. To accomplish this, as mentioned in the Elazığ example, a form of intervention that will start from the family, the centre where historical memory is transferred to other generations, needs to be defined.

- Second, despite the Bolu community's wealth, the fear of failure in society is relatively high. On the one hand, this situation leads to the development of saving culture in society, on the other hand, the habit of earning income from interest. Therefore, there is a need to develop policies and actions that increase individuals' tendency to take risks, that is, to be entrepreneurs. Thus, a multi-stage and multi-actor process needs to be operated. In this sense, families should be informed about entrepreneurship and innovation. Also, with the joint work of KOSGEB, Chamber of Commerce and Industry and the Ministry of National Education, more emphasis can be placed on entrepreneurship and innovation courses in schools that can create an entrepreneurial awareness in children.

- Third, Bolu is one of the provinces adversely affected by the incentive regime because it has started to lose its former appeal in terms of investments due to having lower incentive rates than its neighbouring provinces. For this reason, with the revision of the incentive regime as suggested above, new support packages that can lead the city to be a more attractive place can be defined.

This attempt can also solve the employment problems of qualified personnel, which may stop the brain drain in Bolu.

- Finally, although the city is located in the middle of two large cities (Ankara and İstanbul), it has significant transportation and logistics problems. The absence of rail and air transport is seen as critical obstacles to innovative entrepreneurship activities. For this reason, it is highly essential to strengthen the transportation infrastructure of the city. In this context, the new train connection that will be formed by connecting the Ankara-Istanbul and Ankara-Zonguldak train lines starting from Sakarya and passing through Düzce and Bolu will significantly increase the accessibility of Bolu.

Adana:

Although it is the most innovative province, some institutional factors limit innovation-driven entrepreneurship activities in Adana. Below are a few policy suggestions to help counter the adverse effects of these institutions.

- First and foremost, the leading causes of the socio-economic decline that Adana has experienced, especially since the early 2000s, should be urgently eliminated. One of the main reasons for the socio-economic decline of the city is the new incentive system. Adana is very disadvantageous in the incentive system compared to neighbouring provinces because it receives lower support rates in regional incentives. As experienced in Bolu, this situation caused Adana to lose its importance in terms of investments. For this reason, it is quite essential to develop a fairer incentive regime

- Second, another main reason for Adana's decline in socio-economic and innovative entrepreneurship activities is the political disputes between the central government and the local government. Political conflicts between the central government and the municipality cause Adana not to be adequately supported by the central government. For example, due to political reasons, the budgets required for large-scale infrastructure projects are either

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approved too late or not. In this sense, the resolution of political conflicts is vital for the city's economic, social, and cultural life. At this point, professional associations, NGOs and individuals representing the private sector have a special duty. These organisations and individuals, who provide strong cooperation among themselves, can play an intermediary role in solving the problems between the municipality and the central government and can accelerate investments.

- Third, although the city has a rich and diverse human resource, it cannot take advantage of this potential as desired. Thus, policies and measures are needed to direct rich human resources to innovation-driven entrepreneurship activities. In this context, young people who intend to become entrepreneurs can be supported with the start-up funds created under the leadership of the Chamber of Commerce, Chamber of Industry and KOSGEB.

- Last but not least, the city has a strong industrial and agricultural production background, so it has advanced production, trade and working culture. However, these potentials are still distant from an innovative perspective. At this point, if the appropriate projects and supports foster these potentials, the city's innovation-driven entrepreneurship level can rise further. The support mechanisms mentioned above can contribute to the city's economic growth and development by combining these potentials with an innovative perspective.

8.2.3 Policy Recommendations at Firm or Individual Level

Significant institutional factors restricting innovative entrepreneurship activities at the firm and individual level were identified. Several policy recommendations that closely concern all provinces at the firm and individual level are created, as seen below, to promote innovative entrepreneurship activities.

- First, studies are needed to increase individuals' awareness about innovation and entrepreneurship to ensure survival and growth in an increasingly competitive environment. To this end, KOSGEB and other organisations can work together to ensure that individuals become more knowledgeable and conscious about innovative entrepreneurship activities with the training.

- Second, since the institutionalisation capacity of most companies is quite low, various mechanisms are needed to convey the importance of internal institutionalisation to company owners. For this reason, training and consultancy services can be provided to companies through various state institutions and NGOs.

- Fourth, networks play a critical role in enabling entrepreneurs to access rich and diverse information and financial resources, labour force and markets. However, in this study, cooperation/partnership and knowledge sharing among entrepreneurs, that is, networks, is weak due to low trust and tight competition between firms or entrepreneurs. For this reason, it is of great importance to prepare policies and measures to increase cooperation/partnership, knowledge sharing and trust between entrepreneurs. In this regard, relevant organisations can increase trust and cooperation among companies with various trainings and joint projects.

- Finally, policy instruments are needed to promote entrepreneurship culture in all provinces. In this respect, education facilities, contests, socio-cultural activities and particularly the media play a pivotal role in developing an entrepreneurial culture by improving individuals' entrepreneurship skills and accepting entrepreneurship as an important career choice. In other words, successful entrepreneurship stories presented in the media and training in educational facilities will play a significant role in developing entrepreneurship culture in a city.

8.3   Contributions of the Study

A growing number of studies using the theoretical framework defined by Scott (1995) have focused on the impact of the three dimensions of the institutions on the types or levels of entrepreneurship (e.g. Amorós, 2009; Doh and McNeely, 2012; Urbano and Turró, 2013; Urbano and Alvarez, 2014; Elert et al., 2017; Grillitsch, 2018; Urban and Ratsimanetrimanana, 2019). Following these studies, this research aimed to reveal how and to what extent the three pillars/dimensions of institutions determine the provinces' innovative entrepreneurship levels (regions at NUTS-III level) in Turkey. This study and its results, which were handled by taking advantage of the literature gap, make significant contributions to both the theoretical and empirical literature about the impact of institutions on innovative entrepreneurship. The contributions of the study to the literature can be defined as follows:

First, from the institutional perspective, this research answers the demand for further research on the link between institutions and entrepreneurship (Audretsch et al., 2010; Alvarez and Urbano, 2012; Cardoza et al., 2016; Grillitsch, 2018), with particular attention to the supportive and preventive roles of the three dimensions of the institutions. So far, most of the previous literature on institutions and entrepreneurship has focused on institutions' regulative dimension. However, although there has been a significant increase in the number of studies focusing on the effects of the normative and culture-cognitive dimensions on entrepreneurship in recent years, there are significant gaps in the literature. In this sense, Bruton et al. (2010) suggest that studies addressing the importance of informal institutions in the context of entrepreneurship are lacking, while Carlsson et al. (2013) point out that more research is needed in the future to understand more broadly the impacts of institutions on regional innovative entrepreneurship.

Second, one of the most valuable contributions of this research to the theoretical and empirical literature is that it examines the links between the three dimensions of institutions and innovation-driven entrepreneurship at the provincial level (at NUTS-III regional level) in a developing country, Turkey. In other words, the number of

studies examining the effect of the institutions on the type and level of entrepreneurship at the regional level (i.e. at NUTS-II or III levels) is scarcely any, as the overwhelming majority of the literature examining the impact of institutions, particularly the regulative dimension, on entrepreneurship makes comparisons between countries or states using data from supranational organisations, including the World Bank, EU, OECD, Global Entrepreneurship Monitor (GEM), Heritage Foundation, Fraser Institute, Transparency International and the Economic Freedom of North America (EFNA). Similarly, most of the studies examining the effects of the normative and culture-cognitive dimensions of institutions on entrepreneurship or innovation activities remain on the national level and use indexes or scales, such as Hofstede's national cultural dimensions (power distance, individualism, masculinity, uncertainty avoidance, long term orientation), the GEM normative (high status, entrepreneurship as a desirable career choice, and media attention) and cognitive institutions (opportunity perception, skills, fear of failure and knows an entrepreneur) and the index developed by the World Value Survey (WVS) (risk-taking, creativity and independence).

Third, most of the studies at the regional level have focused on the impact of institutions' formal (regulative) dimension on entrepreneurial activity because it is easier to collect data on this dimension at the regional scale. On the contrary, the number of studies examining the relationship between the normative and cultural-cognitive dimensions with entrepreneurship at the regional scale is quite limited because developing an index or scale that measures regional norms, values, traditions, customs, culture, beliefs, expectations, and shared knowledge is both laborious and quite costly. In this sense, this study and its results provide valuable contributions to current literature since it has attached equal importance to all three dimensions of institutions to examine how and to what extent these dimensions effectively determine the level of innovative entrepreneurship by developing a scale for each dimension. Moreover, unlike previous studies, this study has thoroughly examined all three dimensions of institutions to show comprehensively how each

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dimension support or inhibit innovative entrepreneurial activities (see Chapter 5 and 6).

Fourth, this study expands the previous knowledge and existing literature of institutions and its association with entrepreneurship. It is highly significant, as it is conducted in Turkey, a country with institutions that vary significantly from those in developed countries, where the three dimensions of institutions are scaled and broadly empirically tested. This research has shown that the institutional factors that support or prevent regional innovative entrepreneurship have significant similarities and differences with those in previous studies conducted in developed and developing countries. This difference is increasing from formal institutions to informal institutions because even within Turkey itself, significant differences were detected between provinces in terms of the normative and culture-cognitive institutions, including culture, belief, norms, values, traditions, and socially shared knowledge and concepts.

Fifth, by conducting a sequential mixed method research strategy, a two-phase, qualitative-quantitative study, this thesis provides in-depth information on how the three dimensions affect entrepreneurial activities. By adopting this rarely used research strategy, this study, on the one hand, enables researchers to see and understand different aspects of the same phenomenon in one study; on the other hand, makes an essential contribution to research methodology in the field of entrepreneurship. Also, the combination of qualitative and quantitative research methods in this study has enabled the researcher to consider research questions more deeply and comprehensively.

Sixth, this study offers policymakers solutions at various scales, at national, provincial and firm/individual scales, to increase the level of innovative entrepreneurship activities and encourage individuals to engage in more innovative activities. In addition, this study provides valuable information and policy recommendations on how the demographic and economic structure, geographical

location, transportation, climate, agricultural activities, political atmosphere and many other features of the provinces affect innovation activities.

Finally, to the best knowledge of the researcher, this is the first study in Turkey to investigate the effects of the three dimensions of institutions on innovative entrepreneurship activities at the provincial level. Similarly, it may be the first study exploring the preventive and supportive effects of the three dimensions of institutions on innovation-oriented entrepreneurship at the regional (provincial) level using the mixed method.

8.4   Limitations and Directions for the Future Research

Various research designs, contexts, samples and settings can be used to explore and understand the effects of the three dimensions of institutions (regulative, normative and culture-cognitive) on regional innovative entrepreneurial activities. Due to each method's peculiar characteristics, the researcher may encounter some limitations in using any method. However, to conduct effective research, the researcher needs to anticipate the limitations of the research method to be used and produce solutions accordingly. At the same time, the researcher needs to balance various constraints such as money, time, labour, and the rigour of the study (Fayena, 2015). Therefore, it is not difficult to guess that any empirical research could suffer from limitations to some extent. This is particularly the case when it is one of the first attempts to explore the associations between the three dimensions of institutions and innovative entrepreneurial activities. In this context, the limitations of the study and directions for future research are summarised as follows:

First, perhaps the most critical limitation of this study is the lack of a data set on innovative entrepreneurship activities at NUTS-III regional level. Entrepreneurship, which is a multidimensional concept, has been defined and measured in many different ways, so there is no consensus in the literature on its definition and measurement (Aparicio, 2017). A similar situation is valid for the concept of

innovation. Therefore, in this study, three different data sets were used to create a data set on innovative entrepreneurship at the regional level: firm birth rate, high-tech firm ratio and innovation rate (patent, utility model, industrial design and brandmark application rates). Although variables such as the number of patent applications, high-tech firm ratio or R&D expenditure rates are used alone in the literature to measure innovative entrepreneurship activity, three different data sets were used together in this study.

Nevertheless, future research can develop an index or scale of innovative entrepreneurship at the regional level using more comprehensive and multiple data sets. Similarly, researchers can focus on the impact of institutions on entrepreneurial activities, using different types of entrepreneurship, for example, women, immigrants or social entrepreneurship. Moreover, further research can use different types of entrepreneurship (e.g., formal or informal, opportunity-driven or necessity-driven, or productive or unproductive) to explore how the effects of the institutional dimensions differ according to the types of entrepreneurship.

Second, although this research study was carried out in four different geographic contexts in Turkey to reveal the impacts of institutions on innovation-driven entrepreneurship more understandably and broadly, it may have some limitations. The study's findings clearly indicated that region-specific institutions play a critical and distinctive role in determining the innovative entrepreneurship level, so it is difficult to generalise the results to other provinces in Turkey or regions in other developed or developing countries. Even though the findings on the regulative dimension provide significant clues about the country in general, the findings regarding the normative and culture-cognitive dimensions revealed that the culture, norms, values, beliefs and shared knowledge specific to the region/province showed significant differences from region to region in the formation and development of innovation activities. Therefore, it is clear that more studies are needed to understand the impact of three dimensions of institutions on regional innovative entrepreneurship activities in a more in-depth and comprehensive manner. In this

sense, future studies can focus on different regions in Turkey or other developing or developed countries.

Third, selecting participants (innovative entrepreneurs) only from the manufacturing sector can be another limitation of this study. Since some of the findings obtained are sector-specific, it is impossible to generalise the findings to other sectors. Broadly speaking, results related to the normative dimension mostly cover all sectors, while those related to the regulative and culture-cognitive dimensions are more likely to be sector-specific. Hence, future research can provide significant evidence on the relationships between innovation-driven entrepreneurship and the three dimensions of institutions, considering various sectors.

Fourth, the use of a cross-sectional design may have some limitation. Although the mixed research method has been adopted in this study, it is not easy to generalise the findings obtained from the qualitative and quantitative data collected at a single point in time. For this reason, future research based on the broad time frame will undoubtedly provide much more comprehensive information on institutions and entrepreneurship. Such a research design can also provide information about how institutional changes that occur over time affect innovation-oriented entrepreneurial activities, thus allowing policymakers to develop more appropriate remedies.

Finally, this study focuses on the supportive and preventive roles of the institutions' regulative, normative and culture-cognitive dimensions on innovative entrepreneurial activities. In this sense, future research can also investigate the direct and indirect effects of the institutions' three dimensions on (innovative) entrepreneurship. The mediator and moderator roles of various institutional variables between entrepreneurship and economic development and growth can also be an essential research area for further inquiry for researchers. Simultaneously, as Alvarez et al. (2015) suggested, there is an interaction between entrepreneurship and the institutions; thus, future research can focus on how individual entrepreneurs shape the three dimensions of the institutions over time.

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APPENDICES

A. Empirical Evidence (Chapter 2)

Appendix Table 2.1A. Empirical Evidence on the Regulative Dimension of Institutions

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Fogel et al. (2006)	34 European countries / the period of 1997-2001	Cross-sectional data / Regression analysis	DV(s): Entry rates IV(s): Rules, property rights, and legal regime, Government quality and actions, Control of corporations, Culture, and Education, market diversity, and openness.	new firm formation rates are higher in countries with a better institutional environment such as the rule of law, secured property rights as well as effective and honest government agencies.
Torrini (2005)	25 OECD Countries / From 1979-2000	Panel data / OLS	DV(s): Self-employment rate IV(s): Taxation, Public sector size, Corruption perception index, Market regulation and Replacement rate	The findings reveal that the increase in taxes is more harmful to self-employed individuals than those with paid-employment.
Bjornskov and Foss (2006)	29 Countries / The year 2001	Panel Data / OLS	DV(s): TEA, OPPTEA and NECTEA IV(s): Government size, Legal quality, Sound money, International trade, Regulatory quality	While the size of the government is negatively correlated with entrepreneurial activity, sound money is positively correlated with entrepreneurial activity.
Klapper et al. (2006)	342216 firms / the period 1998-1999	Panel data / OLS	DV(s): Entry rate IV(s): Entry costs, Entry procedures, Bankruptcy costs, Private credit, Employment laws, Property rights, and Tax disadvantage	The results suggest that costly entry regulations impede the formation of new businesses.
Campbell and Rogers (2007)	48 U.S. States / the period 1990-2000	Panel data / Regression	DV(s): Firm birth rate IV(s): Economic freedom (EFNA index)	There is a strong positive association between economic freedom and net business formation.
van Stel et al. (2007)	39 countries / the period 2000–2005	Panel data / Regression	DV(s): TEA, OPPTEA and NECTEA IV(s): Access to loan, Venture capital availability, Procedures, Time, Cost, Minimum capital, Firing costs, Legal rights index, etc.	The minimum capital requirement required to start a business reduces entrepreneurship rates in countries.
Hall and Sobel (2008)	48 US States, From 2004 to 2005	Cross-sectional data/ OLS, SAR, Spatial error model	DV(s): Change in Kauffman Index of entrepreneurial activity IV(s): Size of government, takings and discriminatory taxation, and labour market freedom.	Variation in institutional quality is significant in explaining differences in entrepreneurship levels across states.

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Appendix Table 2.1A. Continue

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Aidis et al. (2008)	30 countries / the period 20012005	Panel data / Probit regression	DV(s): Start-up and Business ownership rate IV(s): Corruption index, GDP pc, etc.	The results suggest that the weak institutional environment can explain the low level of entrepreneurship in Russia.
Nyström (2008)	23 OECD countries / the period 1972-2002	Panel data / OLS	DV(s): Self-employment rate IV(s): Economic freedom (Size of government, Legal structure and security of property rights, Access to sound money, freedom to trade internationally, and Regulation of credit, labour and business)	Secure property rights, better legal structure, smaller government size as well as less regulation of labour, business and credit positively lead to the development of entrepreneurship.
Amorós (2009)	60 countries / the period 2001-2007	Panel data/ OLS	DV(s): OPPTEA and NECTEA IV(s): Voice and accountability, Political stability and absence of violence, Government effectiveness, Regulatory quality, the rule of law, and Control of corruption.	Quality of institutions is an essential factor in explaining the differences in rates and types of entrepreneurial activity.
Casero et al. (2013)	83 countries / the period 2006-2007	Panel data / OLS	DV(s): TEA IV(s): Size of government, Legal structure and property rights, Access to a stable currency, Trade freedom, and Regulation in credit, job and business market.	The effects of institutional variables on new business formation differ according to the development stages of the countries.
Estrin et al. (2013)	42 countries / the period 2001-2006	Panel data / Multilevel modelling	DV(s): Aspirations of entrepreneurs IV(s): Constraints on executive, Intellectual property rights, Corruption, Government size, and other variables	The weaker property rights, higher levels of corruption and larger government have significantly negative impacts on entrepreneurship aspirations.
Fuentelsaz et al. (2015)	63 countries / the period 2005-2012	Panel data / OLS	DV(s): OPPTEA and NECTEA IV(s): Property rights, Business freedom, Fiscal freedom, Labour freedom, Financial capital, and Educational capital	While opportunity-driven entrepreneurship is positively affected by the improvement of formal institutions, necessity-driven entrepreneurship is negatively influenced.

Appendix Table 2.1A. Continue

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Wang (2016)	119 countries / the period 2006-2014	Panel data / OLS	DV(s): Finance, Tax, Competition, Electricity and Political IV(s): High-growth firms, SMEs, Ownership, Age, and Experience.	Access to finance is seen as the most critical obstacle that prevents the development of SMEs.
Nikolaev et al. (2018)	39 countries / the period 2000–2005	Panel data / Regression	DV(s): Self-employment, OPPTEA, NECTEA, and nascent entrepreneurship rates IV(s): Economic variables, Formal institutions, Cultural values, and Geography and Legal origins	Institutional variables linked to economic freedom are the most important factors determining different types of entrepreneurship.
Kumar and Borbora (2019)	29 states and 7 union territories / the year 2014.	Panel data / OLS	DV(s): Micro-, small- and medium-sized enterprises IV(s): Institutional scores, Bureaucratic efficiency, Power supply, and Factories and Surfaced road	The differences in institutional quality (i.e., better legal structure, easier access to finance, education and information as well as smaller government size) play a crucial role in explaining the variations in regional entrepreneurship level.
Urbano et al. (2019)	14 countries / the period of 2004-12	Panel data / SEM, GLS, OLS, 2SLS, and 3SLS.	DV(s): OPPTEA IV(s): Government policies and procedures, Socio-economic conditions, Skills (Opportunity recognition), Financial assistance, and Non-Financial Assistance	Institutional factors, including the number of procedures and access to credit and communication, have essential effects on opportunity-driven entrepreneurship.
Galindo-Martín et al. (2019)	31 countries / the year 2018	Cross-sectional data / PLS	DV(s): Economic growth and OPPTEA and NECTEA IV(s): Institutions (Property rights, Legal framework and Business freedom) and Unemployment	Well-functioning formal institutions support the development of opportunity-driven entrepreneurship.
Ghura et al. (2019)	14 countries / the period 2006-2016	Panel data / OLS	DV(s): Firm birth rate IV(s): Control of corruption, Number of procedures, Education and training, and Access to finance and technology absorption	Corruption plays a significant moderating role between formal institutions and entrepreneurship.

Appendix Table 2.1A. Continue

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Santos et al. (2019)	23 EU countries / the period 2006-2015	Panel data / OLS	DV(s): Informal entrepreneurship IV(s): Quality of economic institutions and political institutions	The higher the quality of economic and political institutions, the lower the level of informal entrepreneurship.
Agostino et al. (2019)	(107) Italian provinces / the period 2004-2012	Panel data / Tobit model	DV(s): Gross entry rate IV(s): Institutional quality (the rule of law or regulatory quality)	Local institutional quality in terms of the rule of law and regulatory quality is positively associated with higher firm entry rates. This link is stronger, particularly in high-tech sectors.
Bennett (2020)	300 US cities / the period 1972-2012	Panel data / OLS	DV(s): Firm entry and exit rate IV(s): Government consumption and transfer, Insurance, Taxation index and Labour market distortions index	Cities with high property taxes and minimum wage requirements, as well as large volumes of social security and insurance payments, have a higher firm exit and lower firm entry rates.
Agostino et al. (2020)	6500 firms (7 EU countries) / the period 2010-2014	Panel data / 2SLS	DV(s): Total Factor Productivity (TFP) of manufacturing firms IV(s): Institutional Quality (the rule of law and government effectiveness)	Quality local institutions in terms of the rule of law and government effectiveness support and encourage SMEs to be more productive.
Fuentelsaz et al. (2020)	74 countries / the period 2007-2017	Panel data / Regression	DV(s): Entrepreneurial Exit and High-growth aspiration entrepreneurship IV(s): Property rights and Business, Trade, Investment and Financial freedom	It is found that institutions that are market-friendly support high-growth aspirations while decreasing exit.

NOTES: TEA (Total Entrepreneurial Activity); OPPTEA (Opportunity-driven entrepreneurship); NECTEA (Necessity-driven Entrepreneurship); WGI (Worldwide governance indicators);
OLS (Ordinary least squares); PLS (A partial least-squares); 2SLS (Two-stage least squares); 3SLS (Three-stage least-square); GLS (Generalized-least Square); SEM (The structural equation modelling); GMM (Generalized method of moments); SAR (Spatial autoregressive model)..

Appendix Table 2.1B. Empirical Evidences on the Normative Dimension of Institutions

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Arasti et al. (2012)	10 Entrepreneurs / year 2011	Semi-structured interviews / Content analysis	Qualitative Data (After content analysis four factors were retrieved: family context, believes, norms and expectations, social networks and country technology conditions)	The normative factors, including "family context", "societies' norms and believe", "the expectations from women" and "the technology growth in a country" are critical to entrepreneurial intention.
Qian et al. (2012)	305 observations / the year 1999	Cross-sectional / SEM	DV(s): Firm birth rate IV(s): New knowledge, Human capital, Agglomeration, Industry specialization, Quality of life, Tolerance, and University	High technology and cultural diversity stimulate regional entrepreneurship.
Muhammad et al. (2016)	84 participants / the year 2015	Semi-structured interviews / Content analysis	Qualitative Study	Religious, socio-economic and structural forces led to the suppression of social and cultural capital in rural areas in Pakistan, which in turn led to the formation of low entrepreneurial activity.
Paul et al. (2017)	500 participants (4 countries) / the year 2014	Survey questionnaires / ANOVA	DV(s): Entrepreneurial intention IV(s): Country culture and Proactive personality	The findings indicate that entrepreneurial intention is highly influenced by a country's culture and an individual's proactive personality.
Escandón-Barbosa et al. (2019)	30 cities in Colombia / the period 2000–2013	Panel data / A hierarchical logit regression	DV(s): TEA IV(s): Formal institutions (Objective insecurity and Procedures) and Informal institutions (Subjective insecurity and Social norms)	Social norms have a greater effect on the formation of entrepreneurial activities in rural areas where the interaction between individuals is stronger, but the presence of subjective and objective insecurity has more negative effects on rural entrepreneurship.
Fritsch et al. (2019a)	92 planning regions of Germany / the period 2000-2016	Panel data / OLS and 2SLS	DV(s): Start-up rate and Entrepreneurial personality fit IV(s): Self-employment rate in 1925	The findings show a positive relationship between the levels of historical self-employment in a region and the existence of individuals with entrepreneurial intentions. This measure also correlated positively with the level of start-up and innovation activity.

Appendix Table 2.1B. Continue

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Fritsch et al. (2019b)	168 regions / the period 1925-2010	Cross-sectional data / OLS	DV(s): Share of small firms IV(s): Self-employment rate in 1925	The results reveal that the long-lasting institutions and culture greatly affect the persistence of self-employment. This result suggests that a historical entrepreneurial tradition creates an awareness of entrepreneurship in new generations.
Díez-Esteban et al. (2019)	37 countries / the period 2007-2015	Panel data / GMM	DV(s): Risk-taking tendency IV(s): Power distance, Individualism, Masculinity, Uncertainty avoidance, Long-term orientation, Religions, and etc	Different religious backgrounds have different effects on risk-taking. Also, countries with higher individualism, power distance, masculinity, and long-term orientation scores, but lower uncertainty avoidance scores tend to have higher risk-taking tendencies.
Lortie et al. (2019)	262 regions in 29 countries / the period 1994-2004	Panel data / Multilevel regression	DV(s): Self-employment rate IV(s): Long-term orientation, Power distance, Individualism, Masculinity, and Uncertainty avoidance	Long-term orientation was found to be a critical cultural dimension influencing entrepreneurial activity level.

NOTES: TEA (Total Entrepreneurial Activity); OPPTEA (Opportunity-driven entrepreneurship); NECTEA (Necessity-driven Entrepreneurship); WGI (Worldwide governance indicators);
OLS (Ordinary least squares); PLS (A partial least-squares); 2SLS (Two-stage least squares); 3SLS (Three-stage least-square); GLS (Generalized-least square); SEM (The structural equation modelling); GMM (Generalized method of moments); SAR (Spatial autoregressive model)..

Appendix Table 2.1C. Empirical Evidence on the Culture-cognitive Dimension of Institutions

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Vaillant and Lafuente (2007)	4877 participants / the year 2003	Cross-sectional / Logit regression	DV(s): Entrepreneurial activity IV(s): Social fear of failure, Role model, Self-confidence in entrepreneurial skills, Knowledge, and etc.	The existence of entrepreneurial role models is an essential social feature that supports entrepreneurial activities.
De Clercq et al. (2010)	14 emerging countries / the period 1999–2001	Panel data / Logit model	DV(s): TEA IV(s): Associational activity, Regulative (taxes, supports, regulations, permits and licenses), Cognitive (experiences, knowledge and skills), and Normative (desirable career choice, respect entrepreneurship and successful stories)	The findings show a positive relationship between a country's associational activity and entrepreneurial activity level, but this relationship is particularly robust in environments with higher regulative and normative institutional burdens and lower cognitive institutional burdens.
Danis et al. (2011)	30 countries / the years 1999, 2000, 2001	Cross-sectional / Logit regression	DV(s): TEA IV(s): Regulatory burden, Cognitive burden, Normative burden, Associational activity, and etc.	Social networks are more critical for new business formation in emerging economies than in developed ones.
Liñán et al. (2011)	13 countries / the year 2004	Cross-sectional data / Logistic regression	DV(s): Entrepreneurial intention (EI) IV(s): Individual perception (Role model, Self-efficacy, Risk perception), Opportunities perception, and Socio-cultural perception (Desirable career choice, Status and respect and Public media)	Research findings suggest that all kinds of individual perceptions are important in explaining entrepreneurial intentions.
Alvarez and Urbano (2012)	42 Countries / the period 2005–2008	Panel data / OLS	DV(s): Self-employment rate IV(s): Independence, Risk-taking, Creativity, Education level, GDP per capita	The findings of the research indicate that risk-taking and creativity have a positive and significant impact on entrepreneurship.
Urbano and Turró (2013)	9 EU countries / From 2004–2008	Panel data / Negative binomial regression	DV(s): Corporate entrepreneurship activity IV(s): Knowledge, Personal networks, Opportunity recognition, Fear of failure, Media impact, Procedures	Internal factors (knowledge, networks and perceiving business opportunities) play a more important role than external factors (Fear of failure, media impact and bureaucratic procedures) in determining entrepreneurship level.
Stuetzer et al. (2014)	western Germany / the period 2002–2006; 2008–2009	Panel data / Multilevel logistic regression	DV(s): Start-up intentions and Engagement in start-up activity IV(s): Perceived opportunities, Knowing other entrepreneurs, Skills, Fear of failure, and etc.	Regional characteristics such as knowledge creation, economic context and entrepreneurial culture influence individuals' perceptions of business opportunities.

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Appendix Table 2.1C. Continue

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Kodila-Tedika and Agbor (2016)	60 Countries / the year 2010	Cross-sectional data / OLS, 2SLS	DV(s): GEDI IV(s): Economic freedom, Social Trust, Regulatory quality	Trust affects the development of entrepreneurial activities positively and strongly.
Neira et al. (2017)	12 countries / the period of 2006-2010	Cross-sectional data / Logistic regression	DV(s): TEA IV(s): Individual social capital (social networks), Culture, and Perception (opportunity recognition and skills)	The results show that the perception of having social networks is crucial for entrepreneurial activity.
Shiri et al. (2017)	455 participants / the year 2017	Cross-sectional data / SEM and PLS	DV(s): Entrepreneurship intentions IV(s): Attitude about behaviour, Perceived behavioural control, and Subjective norm	The social appreciation of entrepreneurship has a crucial impact on entrepreneurial intention.
Boudreaux and Nikolaev (2019)	47 countries / the period 2002-2012	Panel data / Multi-level logistic regression	DV(s): OPPTEA IV(s): Opportunity recognition, fear of failure, Human, Social and Financial capital, and Economic freedom	As the quality of the institutional environment enhances, human and financial capital becomes less critical, while social capital becomes more critical for entrepreneurship.
Dileo and Pereiro (2019)	49 countries / the years 2008, 2010, 2011, 2012, and 2014	Cross-sectional data / Multi-level binary logistic regression	DV(s): Nascent, Young and Established entrepreneurship IV(s): Socio-economic and demographic factors and Perceptual factors, and Institutional	Entrepreneurial activities are male-oriented, and individuals with higher-education and broad social networks are more likely to start new ventures.
Ayob (2020)	75 samples from 49 countries / the years 2014 and 2016	Cross-sectional data / Hierarchical regression	DV(s): Student entrepreneurship IV(s): Economic conditions, Entrepreneurship education and Entrepreneurial culture	Both cultural and educational factors are essential for nascent student entrepreneurship.
Lee et al. (2020)	29 OECD countries / the period 2009-2012	Panel data / Multi-level logistic regression	DV(s): TEA, High-growth entrepreneurial activities with growth aspiration and export orientation IV(s): Social capital, Dispositional avoidance trait, Bankruptcy law, Social costs of failure, and etc.	The research found that the higher social costs of failure hurt total entrepreneurial activity.

NOTES: TEA (Total Entrepreneurial Activity); OPPTEA (Opportunity-driven Entrepreneurship); NECTEA (Necessity-driven Entrepreneurship); WGI (Worldwide governance indicators);
OLS (Ordinary least squares); PLS (A partial least-squares); 2SLS (Two-stage least squares); 3SLS (Three-stage least-square); GLS (Generalized-least square); SEM (The structural equation modelling); GMM (Generalized method of moments); SAR (Spatial autoregressive model)..

Appendix Table 2.1D. Empirical Evidence including all the three Dimensions of Institutions

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Spencer and Gomez (2002)	34 countries / the year 2002	Cross-sectional / Regression analysis	DV(s): Self-employment, SMEs and Firm Birth Rate IV(s): Regulatory (Economic freedom (procedures, time and costs of starting)), Normative (Respect and accept entrepreneurship as a career choice), and Cultural Cognitive (perceived knowledge, skill, and experience).	The institutional profile of countries play different role in promoting entrepreneurial activity.
Alexander (2012)	68 firms or (18 OECD countries) / the period 1983-2000	Panel data / A hierarchical linear model and the negative binomial regression	DV(s): Patent rate IV(s): Regulative (Legal formalism and Intellectual property rights), Normative (Individualism-collectivism), and Culture-cognitive (Uncertainty Avoidance)	First, the normative and culture-cognitive dimensions of institutions are extremely important for innovation activities but are often neglected constructs, and second, that property rights need more attention.
Eunni and Manolova (2013)	9 countries / the year 2006	Survey questionnaires / ANOVA	DV(s): Regulatory, Normative and Cognitive dimensions IV(s): Countries	Institutional environments are generally perceived as negative for new firm formation in all countries.
Urban (2013)	199 participants / the year 2013	Cross-sectional / Regression	DV(s): Entrepreneurial intentions IV(s): Regulatory (Government supports in finance, regulations and incentives), Normative (Admiring ideas of starting new business, innovative thinking), and Cognitive (Knowledge, skills and experience on starting a new business and risk-taking)	Perceptions of the different institutional dimensions are positive but insignificant effect on entrepreneurial intentions.
Valdez and Richardson (2013)	52 countries / Years of 2005, 2006, and 2007	Cross-sectional data / Multiple regression	DV(s): OPPTEA and NECTEA IV(s): Regulatory (Government supports in finance, regulations and incentives), Normative (Admiring ideas of starting new business, innovative thinking), and Cognitive (Knowledge, skills and experience on starting a new business and risk-taking)	All dimensions of institutions such as regulative, normative and culture-cognitive are related to entrepreneurial activity, but the explanation power of normative and culture-cognitive institutions is higher than regulative institutions.
Urbano and Alvarez (2014)	30 countries / the year 2008	Cross-sectional data / The binominal logistic regression	DV(s): TEA IV(s): Regulative (business legislation, procedures and venture capital), Normative (career choice, high status and media attention), and Cultural Cognitive (skills, fear of failure and knowing entrepreneurs).	A favourable regulative (fewer procedures), normative (higher media attention) and culture-cognitive (better skills, knowledge and experience and less fear of failure) institutions increase the likelihood of becoming an entrepreneur.

Appendix Table 2.1D. Continue

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Sambharya and Musteen (2014)	43 countries / the period 2000–2005	A cross-sectional time series data / GLS	DV(s): OPPTEA and NECTEA IV(s): Regulative (World Governance Indicators index), Normative (Index of Economic Freedom), and Cultural Cognitive (measured by the GLOBE studies).	Countries characterized by lower market freedom, higher power distance, and collectivism tend to have higher levels of necessity-driven entrepreneurship, whereas those with lesser market openness and regulatory quality, and smaller power distance are linked to opportunity-driven entrepreneurship.
Bianchi et al. (2015)	55 countries / the year 2010	Cross-sectional data / Multiple linear regression	DV(s): Creative service IV(s): Regulative (Voice and accountability, Political stability and absence of violence, Government effectiveness, Regulatory quality (RQ), Rule of law, and Control of corruption), Normative (Individualism-collectivism), and Cognitive (Power distance)	The findings indicate that countries with higher individualism and lower power distance values are likely to have a higher level of internationalization of the creative industry.
Williams and Vorley (2015)	34 participants (in Bulgaria) / the year 2012	In-depth interviews / Content analysis	Qualitative data	Institutional asymmetry between formal and informal institutions has a detrimental impact on the development of productive entrepreneurship.
Aparicio et al. (2016)	43 countries/ the period 2004–2012	Panel data / 3SLS	DV(s): OPPTEA IV(s): Informal institutions (control of corruption, confidence in one's skills) and formal institutions (number of procedures and access to private credit)	Informal institutions have a higher impact on opportunity-driven entrepreneurship than formal institutions. Particularly, control of corruption, skills and access to credit has a positive influence on opportunity-driven entrepreneurship.
Lim et al. (2016)	22 Emerging Economies / the period 2005–2008	Panel data / OLS	DV(s): TEA, OPPTEA and NECTEA IV(s): Regulative condition, Normative condition, Cognitive condition, Human capital, Financial capital	Regulatory, normative and cognitive conditions have significant moderation effects on the relationship between individuals' human and financial capital and their engagement in entrepreneurship.
García-Rodriguez et al. (2017)	1064 participants (from Spanish universities) / the period of 2013-14	Survey questionnaires / PLS	DV(s): Entrepreneurial intention IV(s): Attitude, Subjective norms, Perceived behaviour control, Family background, Career motives, University environment, Learning progress, Social context (In-group collectivism, Power distance and Uncertainty avoidance)	The university environment directly influences student's motivation, attitude and self-confidence, and indirectly, their entrepreneurial intention. The social environment exerts a weak direct effect on the desires and attitudes towards the intention to start a new business.

Appendix Table 2.1D. Continue

Source	Sample/Periods	Methodology	Variable(s)	Main Findings
Fuentelsaz et al. (2018)	84 countries / the period 2002–2015	Panel data / Tobit regression	DV(s): OPPTEA IV(s): Formal institutions (Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption) and Informal institutions (Individualism/ Collectivism and Uncertainty avoidance)	In countries with a more individualistic orientation, the relationship between formal institutions and opportunity entrepreneurship is more intense, as happens in societies with lower levels of uncertainty avoidance.
Raza et al. (2018)	49 countries / the period 2001–2013	Panel data / Logistic regression	DV(s): Innovative entrepreneurial activity IV(s): Formal institutions (Intellectual Property Rights and Business Freedom), Informal institutions (Institutional Collectivism, Performance Orientation and Uncertainty Avoidance), and Entrepreneurial cognition (Self-efficacy, Perceived Opportunity and Fear of Failure)	Increasing intellectual property rights and business freedom and decreasing collectivism and uncertainty avoidance result in a stronger relationship between entrepreneurial cognitions and innovative entrepreneurial activity.
Li et al. (2019)	216 participants (from 8 provinces of China) / 2019	Survey questionnaires / PLS and SEM	DV(s): Entrepreneurial growth intention IV(s): Regulative (Access to contracts and government assistance), Normative (Respecting and admiring entrepreneurship), and Cognitive (Having knowledge, skills and experience about entrepreneurship, dealing with and managing risks)	Different institutional dimensions have a significant but different impact on the way entrepreneurs see and perceive the growth of enterprises.
Saka-Helmhout et al. (2019)	70 European cities / the period 2004–2010	Panel data / SEM	DV(s): New firm birth rate IV(s): Culture and norms, Infrastructure and amenities, Internet access, Formal institutions (Resources and Administration), The Melting Pot (Technology, Talent and Tolerance), and Demand	Research indicates that both regional and individual level factors condition on start-up rates in cities.

NOTES: TEA (Total Entrepreneurial Activity); OPPTEA (Opportunity-driven entrepreneurship); NECTEA (Necessity-driven Entrepreneurship); WGI (Worldwide governance indicators);
OLS (Ordinary least squares); PLS (A partial least-squares); 2SLS (Two-stage least squares); 3SLS (Three-stage least-square); GLS (Generalized-least Square); SEM (The structural equation modelling); GMM (Generalized method of moments); SAR (Spatial autoregressive model).

B. Methodology: Research Design and Method (Chapter 4)

Appendix Table 4.1: List of Participants included in the Qualitative Research

ID	Region	Date of Interview	Organization/Person	Type of Interview	Duration	Gender	Occupation
1	VAN	Sept. 19	Provincial Directorates for Science, Technology and Industry	Face-to-Face	65 min.	Male	Branch Manager
2	VAN	Sept. 19	Established Entrepreneurship (eski girişimci)	Face-to-Face	55 min.	Male	Owner
3	VAN	Sept. 19	Governorship of Van	Telephone	5 min.	Male	Deputy Governor
4	VAN	Sept. 19	Innovative Entrepreneurship (yenilikçi girişimci)	Face-to-Face	60 min.	Male	Manager
5	VAN	Sept. 20	Metropolitan Municipality	Face-to-Face	36 min.	Male	Deputy Secretary General
6	VAN	Sept. 20	Organized Industrial Zone	Face-to-Face	43 min.	Male	President
7	VAN	Sept. 20	Eastern Anatolia Development Agency	Face-to-Face	105 min.	Male and Female	Experts
8	VAN	Sept. 21	Chamber of Commerce and Industry	Face-to-Face	38 min.	Male	Secretary General
9	VAN	Sept 21	Technopark	Face-to-Face	16 min.	Male	Manager
10	VAN	Sept. 21	Provincial Directorates of Small and Medium Enterprises Development Organization of Turkey (KOSGEB)	Face-to-Face	34 min.	Male	Expert
11	ELAZIĞ	Sept. 24	Chamber of Commerce and Industry	Face-to-Face	47 min.	Male	Secretary General
12	ELAZIĞ	Sept. 24	Organized Industrial Zone	Face-to-Face	25 min.	Male	Manager
13	ELAZIĞ	Sept. 24	Governorship of Elazığ	Face-to-Face	5 min.	Male	Deputy Governor
14	ELAZIĞ	Sept. 24	Provincial Directorates of KOSGEB	Face-to-Face	36 min.	Male	Expert
15	ELAZIĞ	Sept. 24	Established Entrepreneurship (eski girişimci)	Face-to-Face	28 min.	Male	Owner
16	ELAZIĞ	Sept. 25	Fırat Development Agency	E-Mail	-	Female	Experts
17	ELAZIĞ	Sept. 25	Fırat Teknokent	Face-to-Face	47 min.	Male	President
18	ELAZIĞ	Sept. 25	Elazığ Municipality	Face-to-Face	45 min.	Male	Deputy Mayor
19	ELAZIĞ	Sept. 25	Provincial Directorates for Science, Technology and Industry	Face-to-Face	71 min.	Male	Expert
20	ELAZIĞ	Sept. 25	Innovative Entrepreneurship (yenilikçi girişimci)	Face-to-Face	85 min.	Male	Owner
21	BOLU	Oct. 9	Organized Industrial Zone	Face-to-Face	62 min.	Male	Manager
22	BOLU	Oct. 9	Established Entrepreneurship (eski girişimci)	Face-to-Face	17 min.	Male	Owner
23	BOLU	Oct. 9	Provincial Directorates of KOSGEB	Face-to-Face	32 min.	Male	Expert
24	BOLU	Oct. 9	Provincial Directorates for Science, Technology and Industry	Face-to-Face	46 min.	Male	General Manager

25	BOLU	Oct. 10	Chamber of Commerce and Industry	Face-to-Face	40 min.	Male	Secretary General
26	BOLU	Oct. 10	Marmara Development Agency	Face-to-Face	46 min	Male	General Coordinator
27	BOLU	Oct. 10	Governorship of Bolu	Face-to-Face	32 min.	Male	Deputy Governor
28	BOLU	Oct. 10	Bolu Teknokent	Face-to-Face	46 min.	Male	Manager
29	BOLU	Oct. 10	Bolu Municipality		41 min.		Deputy Mayor
30	BOLU	Oct. 10	Innovative Entrepreneurship (yenilikçi girişimci)	Face-to-Face	16 min.	Male	Owner
31	BOLU	Oct. 10	Entrepreneur (Abdullah Uzun)	E-mail	-	Male	Owner
32	ADANA	Oct. 17	Chamber of Industry	Face-to-Face	67 min.	Male	Secretary General
33	ADANA	Oct. 17	Industrial Organized Zone	Face-to-Face	42 min.	Male	Branch Manager
34	ADANA	Oct. 17	Çukurova Development Agency	Face-to-Face	31 min.	Male and Female	Experts
35	ADANA	Oct. 18	Governorship of Adana	Face-to-Face	30 min.	Male	Deputy Governor
36	ADANA	Oct. 18	Chamber of Commerce	Face-to-Face	40 min.	Male	Secretary General
37	ADANA	Oct. 18	Metropolitan Municipality	Face-to-Face	31 min.	Female	Branch Manager
38	ADANA	Oct. 18	Provincial Directorates of KOSGEB	Face-to-Face	36 min.	Male	Expert
39	ADANA	Oct. 18	Provincial Directorates for Science, Technology and Industry	Face-to-Face	34 min.	Male	General Manager
40	ADANA	Oct. 18	Innovative Entrepreneurship	Face-to-Face	33 min.	Male	Owner
41	ADANA	Oct. 19	Innovative Entrepreneurship and Academic	Face-to-Face	70 min.	Male	Owner and Retired Academic
42	ADANA	Oct. 19	Established Entrepreneurship	Face-to-Face	47 min.	Male	Owner
43	ADANA	Oct. 19	Çukurova Teknokent	Face-to-Face	-	Male	Manager

Appendix Table 4.2: Sample Size Calculation

Cases	Total Number of Firms in Manufacturing Sector	Total Number of Firms in High- and Mid-High Tech Sector	Required Sample Size ($\alpha=0.05$; p= 0.5; q= 0.5; d= 0.10)	Required Sample Size ($\alpha=0.05$; p= 0.8; q= 0.2; d= 0.10)	Required Sample Size ($\alpha=0.05$; p= 0.7; q= 0.3; d= 0.10)	Total Number of Firms Surveyed	Rate
VAN	463	73 (16%)	42	34	39	36	%49
ELAZIĞ	752	122 (16%)	54	42	49	39	%32
BOLU	243	52 (21%)	35	29	32	33	%63
ADANA	1733	516 (30%)	81	55	69	62	%12

Sources: Van Chamber of Commerce and Industry, Elazığ Chamber of Commerce and Industry, Bolu Chamber of Commerce and Industry, Adana Chamber of Industry, 2018 **Notes:** Parentheses show the ratio of medium-high and high-technology firms in the total manufacturing industry firms.
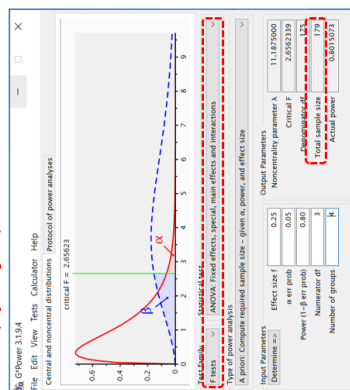
Appendix Figure 4.1A and 4.1B: Sample Size Calculation using the G*Power

C. Qualitative Research Findings (Chapter 5)

Appendix Table 5.1A. Additional Quotes on the Regulatory Dimension of Institutions (for all cases).

Theme I: The existence of weak and malfunctioning regulatory institutions.

Categories	Codes	Quotations
CTG1: Bureaucratic procedures	C2	*"Entrepreneurs have to face numerous formal transactions and bureaucratic obstacles when doing business.. Even while applying for support from us, entrepreneurs need to prepare a project and a lot of paperwork. But in recent times, great efforts have been made to reduce bureaucracy and simplify legislation in all state institutions. They are gradually being reduced in state institutions. For example, a businessman or an entrepreneur does not need to bring even one paperwork when applies to us, he or she can fill them online and send them to us online. We process of them online, as well.."* (B3).
	C4	*"Now the logic of our state managers has changed, gradually began to act by following the logic of the private sector. In the past years, of course, there were serious problems; things that went to state institutions were blocked for various reasons. However, I have to say that in the last one or two years, especially in Elazığ, there have been some managers taking responsibility and putting more effort to facilitate the business of investors…"* (E2).
CTG2: Financial resources	C1	*"it can be understood from the number of applications made to the state institutions providing the support that the entrepreneurs do not have sufficient equity capital to start their activities and especially they are in search of state supports."* (E6).
	C2	*"When we look at the US, the most important mechanism supporting innovation activities is angel investors. That is, there are capitalists who can risk their money. It does not necessarily have to be in the private sector, there are angel investors including the public sector. Turkey is not accustomed to such things. There is an accumulation of capital, but since there is no culture, they (capitalists) do not spend money on innovations. In Adana, an entrepreneur with an innovative idea can apply to businessmen outside official support mechanisms, but as far as I can see, unfortunately, there is no such culture among businessmen."* (A5).
		"Venture capital is very important. But is there any company that has grown or succeeded with venture capital? No."(B6).
	C3	*"The finance sector does everything here in order not to give credits, not to provide financial supports to the entrepreneur, to the investor. How does they do it? (Do you think they behave differently from Elazığ, Bolu or Adana?) Yes, they are very different because we have*

		disadvantages. What is our disadvantages, as a region, as a province we live in a geography where winter season lasts long. Secondly, we are in the region that suffers the most from terror. Therefore, banks issue very low collateral to our assets, values, and investments, thus preventing our access to credits." (V6).
	C4	*"The biggest challenge is in fact access to finance. However, there is a serious capital in Elazığ. I mean, there is a considerable amount of cushion of capital that are Dollars, Euros or Turkish Liras that our President mentioned". (E1).*
CTG3: Incentives and supports	C1	*"The incentives for unemployment are enormous here, and because of the 6th Region incentives, labour costs are quite reasonable here. 'Textile City' was already established in Van. Until 2015, there were almost no textile companies in Van, one or two companies existed, but now we have reached 30 companies. Our goal is to reach 100 companies in the medium-term." (V7).* *"...Elazığ is now in the 6th Region. Investments in OIZ can benefit from the 6th Region incentives. There have been serious shifts from Elazığ to labor-intensive sectors, especially the textile sector. Now a few national companies based in Istanbul also came here. ... Within the OIZ, we have a textile company that came from Istanbul which started with 300 employees and will increase up to one thousand employees. All these developments have been experienced in the last year with Elazığ benefiting from the 6th Region incentives." (E1)* *"Osmaniye is right next to us, among the Priority Provinces for Development, but Adana is not among these provinces. It takes about one hour from here to Osmaniye. Due to the incentives, Osmaniye is more attractive for industrialists than Adana in terms of industrial investments. As such, people are shifting their investments from there to there. We have a great disadvantage that we are close to each other." (A2)*
	C2	*"The incentive system provide significant advantages for large-scale and labour-intensive investments. However, these advantages are not meaningful for the new innovative entrepreneurial activities. In fact, to receive incentive the investment size must be at least 500.000 TL and above, which is a very big amount for start-ups." (E6).*
	C4	*"I have been producing since 1973 and I have been here since 1996, on the other side Mr. Adnan is a new entrepreneur. He says that I will establish a pipe factory and the government gives him an incentive certificate. The state says to Mr. Adnan that I will pay for the social security of all the workers you employ, but there is no support for Hasan. The state tells Mr. Adnan that I exempt you from corporate tax and income tax for ten years and fifteen years, but I cannot do anything for Hasan. So how am I going to compete with Mr. Adnan? Public institutions are making mistakes. They ignore the established entrepreneurs." (V2)*
	C5	*"I am strongly against this things; new, new, new..., please shut up. I already have 1800 members. I say, new businesses are quite important for us, let them to come, there is no problem. However, we cannot come*

to a certain points with new businesses to be established, unless they operate in such an extreme and niche area and unless they are very, very successful companies worldwide. But the real majority is in the old firms. So, if we can improve the productivity and change of these 1800 companies and other established companies in Turkey with an innovative approach, the real gain of Turkey will be here. We always focus on new ones, but in fact, there is more need to focus on the old ones." (A1)
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CTG4: Local actors and social organization	C1	*"The public does not prevent investments in this province. Never, as long as investors create jobs. Our priority is employment. In other words, no public organization would be an obstacle in terms of the development of the province…in Van."* (V1) *"...None of the public institutions and organizations are interested in the problems of the factory owners. Public institutions say that Van's pipe is not good, do not take the pipe from Van, do not get paint from Van, Van paint is not good, do not but briquettes from Van, Van briquettes are not good. Where should you but all these, you should go buy in Tatvan. I would argue that Van Metropolitan Municipality did not even buy one pipe junta from me between 1990 and 2018." (V2)*
	C2	*"We constantly deal with each other. Here are the A party, the B party, in fact, they are all related people, I don't exaggerate, that is, the people in the HDP and AKP all have the same blood ties. But once politics got involved, it was kind of hostile, like the past left-right issue. But this discrimination is gradually decreasing, not like two years ago, things have started to return to normal." (V7).* *"The Public-University-Industry Cooperation (PUIC) has never been so far. Oh, now we are taking good steps. Beyond the political dimension, this cooperation is needed for the development of this city. The city has a good atmosphere now" (E1).*
	C7	*"I am the one who constantly advocates that there will be no superstructure without the infrastructure. Hence, municipalism is not only by decorating the walls, decorating the left and right, but by making real infrastructure investments." (A11).*
	C8	*"Local government is too weak, there is always a conflict brought about by not having the same party as the government. For the past 15 years, election results do not support the current government. As such, incentive mechanisms can be shaped accordingly. Decision-makers can keep such events indirectly in their minds, even if not very directly. Therefore, businessmen complain that Adana does not receive much investment."(A5)*

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Appendix Table 5.1B. The Frequency of Mention of Regulative Pillar of Institutions in Each Case and in All Cases

Codes, Categories and Themes	Van		Elazığ		Bolu		Adana		All Cases	
	FRQ	%	FRQ	%	FRQ	%	FRQ	%	FRQ	%
Theme I: The existence of weak and malfunctioning regulatory institutions.	**108**	**100%**	**120**	**100%**	**67**	**100%**	**155**	**100%**	**450**	**100%**
CTG1: Bureaucratic procedures	**21**	**19%**	**24**	**20%**	**10**	**15%**	**27**	**17%**	**82**	**18%**
C1. Heavy bureaucratic procedures	12	11%	10	8%	5	7%	11	7%	38	8%
C2. Reduction of bureaucratic procedures	6	6%	6	5%	2	3%	8	5%	22	5%
C3. Favouritism / discrimination in bureaucratic procedures	3	3%	0	0%	0	0%	0	0%	3	1%
C4.Change of managers and facilitating role of managers	0	0%	5	4%	0	0%	0	0%	5	1%
C5. Differentiation of bureaucratic procedures by region	0	0%	3	3%	0	0%	0	0%	3	1%
C6. Failure to abide by bureaucratic processes or avoidance	0	0%	0	0%	2	3%	2	1%	4	1%
C7. Legislation does not affect innovation activities	0	0%	0	0%	1	1%	3	2%	4	1%
C8. Legislation does not take into account local characteristics	0	0%	0	0%	0	0%	3	2%	3	1%
CTG2: Financial resources	**15**	**14%**	**17**	**14%**	**14**	**21%**	**19**	**12%**	**65**	**14%**
C1. Limited equity capital	5	5%	2	2%	3	4%	2	1%	12	3%
C2. Difficulties in accessing financial resources	4	4%	8	7%	5	7%	11	7%	28	6%
C3. Difficulties in access to bank loans	6	6%	3	3%	0	0%	0	0	9	2%
C4. Cushion of capital	0	0%	4	3%	0	0%	0	0	4	1%
C5. Bank loans	0	0%	0	0%	4	6%	3	2%	7	2%
C6. High interest rates	0	0%	0	0%	2	3%	1	1%	3	1%
C7. Having a chance to find financial resources	0	0%	0	0%	0	0%	2	1%	2	0%
CTG3: Incentives and supports	**40**	**37%**	**40**	**33%**	**19**	**28%**	**61**	**39%**	**160**	**36%**
C1. Current incentive system and its effects	15	14%	6	5%	10	15%	27	17%	58	13%
C2. Poor relationship between incentives and innovation	10	9%	5	4%	2	3%	3	2%	20	4%
C3. Habit / culture of using incentives	4	4%	5	4%	5	7%	1	1%	15	3%
C4. Missing or incorrect practices in the current incentive system	11	10%	4	3%	0	0%	13	8%	28	6%
C5. Use of incentives outside of their purpose	0	0%	4	3%	0	0%	4	3%	8	2%
C6. Diversity of government subsidies	0	0%	0	0%	2	3%	13	8%	15	3%

C7. Transition from 4th Region to 6th Region incentive system	0	0%	7	6%	0	0%	0	0%	7	2%
C8. Disadvantageous of 4th Region incentives	0	0%	9	8%	0	0%	0	0%	9	2%
CTG4: Local actors and social organizations	**32**	**30%**	**39**	**33%**	**24**	**36%**	**48**	**31%**	**143**	**32%**
C1. Local actors' approach to innovation activities	16	15%	28	23%	12	18%	21	14%	77	17%
C2. Coordination and harmonization between organizations	12	11%	6	5%	0	0%	7	5%	25	6%
C3. Institutionalization problems at country level	4	4%	0	0%	0	0%	6	4%	10	2%
C4. Existence of strong professional chamber	0	0%	5	4%	0	0%	0	0%	5	1%
C5. Existence of active local government	0	0%	0	0%	8	12%	0	0%	8	2%
C6. Existence of weak professional chamber	0	0%	0	0%	4	6%	0	0%	4	1%
C7. Existence of passive local government	0	0%	0	0%	0	0%	3	2%	3	1%
C8. Adverse effects of political wrangling	0	0%	0	0%	0	0%	11	7%	11	2%

Appendix Table 5.2A. Additional Quotes on the Normative Dimension of Institutions (only for Van case).

Theme II: Normative institutions that support or prevent the formation of innovation and entrepreneurial activities.			
Sub-themes	**Categories**	**Codes**	**Quotations**
Theme 2.1: A social structure with culture, values, beliefs and norms (jealous, lazy, dissociative, conservative and weak production knowledge and culture) that suppresses the formation of innovative thinking.	CTG 1: Collective perceptions and values	C2 C3	*"We are a lazy society, (can you open a little more?) or overly lazy. So, when we go to Cumhuriyet Street, there's a lot of unemployed, right? ..Everyone's general desire is that 'I wish to go to school'. Dad says my kid's too lazy, he doesn't work. If you ask the dad, he also doesn't work but, he complains about the laziness of his child. The father doesn't work, so does the child." (V1).* *"one of the biggest handicaps of the Kurdish community is that everyone wants to be the head. Four people get together, but they don't get along. Why is that? Because everybody wants to be the head. However, the best part of the Turks, for example, if two Turks come together, one would be the head. Because of jealousy, envy and desire of everyone to be the head, there is no joint movement, information sharing and partnerships in this region." (V7)*

		C6	*"... But the mentality here is that this party should come, no matter what happens then. This is our economic mind, this is our political mind. We look at everything as religion. We turned politics into religion. This is wrong. Unless we call the wrong things as wrong, we are doomed to live like this." (V6)*
		C9	*"The thing is, we've made our traditions, this kind of cliché a bit of a dilemma. I mean, we put them in religious mode ... Of course, societies respectful and connected to their customs and traditions are good societies. But we don't know where to stop. When we reflect this in our education life, it suppresses us in education. When we try to apply this in business life –let's say, you act according to the directives of your father, grandfather, the elders–, you cannot capture the spirit of entrepreneurship and innovation." (V6).*
Theme 2.2: Demographic, social and economic constraints and potentials.	CTG2: Urbanization and urban life	C1	*"Terror events that started in the past period have had a very negative impact on our city. We gave positive migration, while receiving negative migration. The rich stratum left the city, but poor, unemployed and uneducated people came." (V2).*
		C2	*"Let me give an example, there was a street in Van which was rundown, but the municipality renewed its infrastructure and decorated it with urban furniture to revive. After that many nice cafes and restaurants were opened on this street. Physical infrastructure is therefore important." (V7).*
	CTG3: Economic activities	C4	*"Another truth about us is the fact of drugs. Now, which industry can make as much money as the drug business? You say Apple endured $ 743 million on the stock exchange. Let me tell you something very interesting, if the state permits Van, it can earn $ 743 million in a year from the drug business... that is, we are a society shaped by this." (V8).*
Theme 2.3: Unpredictable and unreachable regional/political location.	CTG1: Regional / political location	C1	*"Let me tell you, one of the most important factors affecting entrepreneurship is security. Security perception. Security perception is more important than security. In other words, the perception of security is important in the medium and long term. Unless the perception of security is improved in the medium and long term, new investments or existing investments in this province will not want to increase its capital. The biggest reason is security perception." (V7)*

Appendix Table 5.2B: The Frequency of Mention of Normative Pillar of

Institutions in Van

Theme	Categories	Codes	Frequency of Mention	%	%
Theme II: Normative institutions that support or prevent the formation of innovation and entrepreneurial activities.					
	Theme 2.1: A social structure with culture, values, beliefs and norms (jealous, lazy, dissociative, conservative and weak production knowledge and culture) that suppresses the formation of innovative thinking.	CTG 1: Collective perceptions and values	*C1. Weak production/trade/work culture* — 12 — 7%		50%
			C2. Laziness — 6 — 3%		
			C3. Envy and jealousy — 8 — 4%		
			C4. Individuality (Away from the collective) — 6 — 3%		
			C5. Tribalism and micro-nationalism — 16 — 9%		
			C6. Political and ideological discrimination — 3 — 2%		
			C7. Strong family ties and social pressure — 11 — 6%		
			C8. Rurality — 6 — 3%		
			C9. Conventionalism (excessive adherence to tradition) — 10 — 6%		
			C10. Low manners and culture — 5 — 3%		
			C11. Social change — 6 — 3%		
	Theme 2.2: Demographic, social and economic constraints and opportunities.	CTG1: Demographic structure	*C1. Limited human resources and unemployment* — 5 — 3%		24%
			C2. Low level of education — 12 — 7%		
		CTG2: Urbanization and urban life	*C1. Urbanization and urban life problems* — 5 — 3%		
			C2. Improvement of urban infrastructure and equipment — 4 — 2%		
		CTG3: Economic activities	*C1. Border trade* — 2 — 1%		
			C2. Agriculture and livestock — 8 — 4%		
			C3. Tourism and construction — 3 — 2%		
			C4. Existence of informal and illegal economic activities — 4 — 2%		
	Theme 2.3: Unpredictable and unreachable regional/political location.	CTG1: Regional/political location	*C1. Security issue* — 10 — 6%		26%
			C2. Unpredictable future — 3 — 2%		
			C3. Low competitiveness — 4 — 2%		
			C4. Lack of strong political figures — 1 — 1%		
			C5. Distance to raw materials and market — 8 — 4%		
			C6. High transportation costs — 9 — 5%		
			C7. Geographical obstacles — 6 — 3%		
			C8. Rich underground and surface resources — 4 — 2%		
			C9. Have a strong position in the East — 1 — 1%		
Total			178	100%	100%

Appendix Table 5.3A. Additional Quotes on the Normative Dimension of Institutions (only for Elazığ case).

Theme II: Normative institutions that support or prevent the formation of innovation and entrepreneurial activities.

Sub-themes	Categories	Codes	Quotations
Theme 2.1: A social structure with culture, values, beliefs and norms (conservative, repressive, religious, passive and non-innovative) that suppresses the formation of innovative thinking.	CTG 1: Collective perceptions and values	C2	*"Currently, Kurdish, Turkish, Zaza, Alevi, then the Armenian population lives in peace and tranquillity, without any trouble. We are now in Muharram ul Haram, there are still lots of activities in Cem houses." (E5).*
		C3	*"So, when you look at the social life we live in, there are situations in which I feel very uncomfortable in my own life. For example, when I read an article, when I read a book, I was always greeted with ridicule. I have always been oppressed and ridiculed especially by my family. Why are you not like us? Why do you study astronomy? ... So, this is what we call bigotry… People are not in favour of renewing themselves, revising themselves, adding information to the day before, and doing different things. We can think of it as a neighbourhood pressure, psychological pressure." (E9).*
		C9	*"I have never seen a person who is cumulative and intellectual come to the fore here. Let me give you an example, when I wear my backpack, some people who call me a fag can even come out here at the university. They say, look at this guy, he's an artist. They can't stand it because I'm different and they don't accept it. So, there's no tolerance." (E7).*
Theme 2.2: Demographic, social and economic constraints and potentials	CTG2: Urbanization and urban life	C1	*"The issue of urbanization and its adoption have not yet yielded positive results for Elazığ." (E7)*
	CTG3: Economic activities	C2	*"People from the surrounding provinces such as Muş, Bingöl and Tunceli often come here. They come here, do their weekend shopping, walk around, have fun and come back again." (E1)*
Theme 2.3: Having an advantageous regional/political location.	CTG1: Regional/political location	C3	*"here we have an old and well-established university, Fırat University, which is one of the leading universities in the field of engineering. It is a top 10 university." (E7)*
		C6	*"we continue in a sweet competition with Malatya. But they have achieved very important political advantages and have made good use of these advantages. For instance, our former President Turgut Özal and the Minister Bülent Tüfenkçi are from Malatya. These two had really positive contributions to Malatya." (E1).*

Appendix Table 5.3B: The Frequency of Mention of Normative Pillar of Institutions in Elazığ

Theme	Categories	Codes	Frequency of Mention	%	
Theme II: Normative institutions that support or prevent the formation of innovation and entrepreneurial activities.	*Theme 2.1: A social structure with culture, values, beliefs and norms (conservative, repressive, religious, passive and non-innovative) that suppresses the formation of innovative thinking.*	CTG 1: Collective perceptions and values	*C1. Management Skill*	4	4%	
			C2. Having cultural diversity in the past	3	3%	
			C3. Strong family ties and social pressure	7	7%	
			C4. Conservatism	10	10%	
			C5. Religiousness	4	4%	
			C6. Passivity	8	8%	
			C7. To rely on the state	8	8%	62%
			C8. Distant to innovation	6	6%	
			C9. Resistance to diversity and lack of tolerance	5	5%	
			C10. Selfishness	5	5%	
			C11. Limited local facilities	3	3%	
	Theme 2.2: Demographic, social and economic constraints and opportunities	CTG1: Demographic structure	*C1. High level of education*	3	3%	
			C2. Giving positive migration, receiving negative migration	10	10%	
			C3. Limited job opportunities and a constant population	3	3%	
		CTG2: Urbanization and urban life	*C1. Limited urban life*	1	1%	21%
		CTG3: Economic activities	*C1. Advanced service and construction industry*	2	2%	
			C2. Being an important trade centre for the surrounding provinces	1	1%	
			C3. The industry sector	1	1%	
	Theme 2.3: Having an advantageous regional/political location.	CTG1: Regional/political location	*C1. To be a safe province*	3	3%	
			C2. To be accessible	6	6%	
			C3. Strong educational infrastructure of the city	5	5%	
			C4. Rich underground and surface resources	1	1%	17%
			C5. Distance to raw materials and market	1	1%	
			C6. Having strong political actors in the past	1	1%	
Total				101	100%	100%

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Appendix Table 5.4A. Additional Quotes on the Normative Dimension of Institutions (only for Bolu case).

Theme II: Normative institutions that support or prevent the formation of innovation and entrepreneurial activities.

Sub-themes	Categories	Codes	Quotations
Theme 2.1: A social structure with culture, values, beliefs and norms (fear of failure, saving culture, austerity, introverted/closed society, and non-innovative) that suppresses the formation of innovative thinking.	CTG 1: Collective perceptions and values	C6	*"I personally like the trades of Gerede and their trading environment, the work they have done. I think this is due to; Gerede used to be a city that was already on the trade routes, I do not include Bolu. Gerede used to be a city on the Silk Road and Spice Road, caravans are constantly coming and passing through, and there is trade in people's culture. And since then, these people have been trading… But when you look at Bolu, we can see that it is more closed to innovation. People of Bolu are generally more closed to make innovation and innovations." (B3)*
		C8	*"We learned from mother and father; be honest, don't be wrong, let us not be embarrassed to anyone. I am now giving the same warning to my children; oh my boy be careful, do like this, but please do not like that. I warn him constantly. Let him go and let the boy do some wrongs. But according to our understanding, it will not be like this, the child will not do no wrong, when he does wrong, it's all over. This will not happen." (B1)*
		C9	*"An innovative investor with money goes to a city and community that accepts this investment. He doesn't waste time and money in a province like Bolu that doesn't accept him… I believe that there is basically a disease of micro-nationalism in Bolu. This disease has reached the extent of racism." (B11)*
		C10	*"...the people of Bolu are a bit introverted. The demographic structure, the sociological structure is a somewhat timid, anxious, robust. The reason for this is that during the early years of the Republic and before, Bolu was a city that was subjected to a lot of pressure. In other words, there is an oppressed society in Bolu." (B9)*

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		C14	*"I think that the persecution during the period of the Bolu Principality and the subsequent implementations of the revolutions during the Republican period in the most violent way are important factors that led the people of Bolu to be introverted, anxiety and coward.." (B11).*
		C13	*"Bolu does not have a bigoted and conservative structure. I don't see a very closed perspective in the locals. I mean, it's contemporary. Considering the country average, there are many different places because we know it. It is not like an Anatolian city, but a little more open. This may be related to its proximity to Ankara and Istanbul or may be related to their wealth. They do not have a conservative structure. They are not closed to innovation; they are not closed to technology." (B8).*
	CTG 2: Economic situation of society	C1, C2, and C3	*"The native of Bolu is very rich. They are seriously rich, and even the native of Bolu does not need money. They can harvest potatoes twice a year ... The mountain, the stone, and the whole place are fertile. So, there are fruit trees that nobody cares about. People have an important income from agriculture. It is a flat area, not a slope like the Black Sea, so you can mow all sides very easily with a tractor. So, the industrial worker here is so important; they don't need money, so they might not come again. I mean, the people here have no gratitude to anyone. Why? Because they have money, most of them work just to get insurance. You can even see workers who have more expensive cars than their managers ..." (B8)*
Theme 2.2: Demographic, social and economic constraints and opportunities.	CTG1: Demographic structure	C1	*"When we say entrepreneurship, there must be things that support entrepreneurship. So, there will be demand that entrepreneurs do something. We are looking at our children going abroad, the state needs to encourage them in real terms to prevent them from going. Our children also finish good universities such as METU, ITU and Boğaziçi, but they do not work in Bolu. Working with a salary of 2 thousand TL in Bolu does not satisfy them. No engineer will work for 2-3 thousand TL here. On other hand, the number of companies that can pay more than this amount is very limited. Because it's obvious what most of them do. (So they produce low value added products.) Yes, this is our biggest problem." (B1)*

Appendix Table 5.4B: The Frequency of Mention of Normative Pillar of Institutions in Bolu

Theme	Categories	Codes	Frequency of Mention	%	
Theme II: Normative institutions that support or prevent the formation of innovation and entreprene urial activities.	*Theme 2.1: A social structure with culture, values, beliefs and norms (fear of failure, saving culture, austerity, introverted/close d society, and non-innovative) that suppresses the formation of innovative thinking.*	CTG 1: Collective perceptions and values			
		C1. Commitment to the state	2	1%	
		C2. Fear of failure	10	6%	
		C3. Prevalence of habit of earning money from interest (interest culture)	9	6%	
		C4. Saving culture	5	3%	
		C5. Frugality	3	2%	
		C6. Weak production / trade / work culture	13	8%	
		C7. Rurality	3	2%	
		C8. Distant to innovation	6	4%	
		C9. Oppressive and exclusionary society	5	3%	
		C10. Introversion/closed Society	11	7%	78%
		C11. Change of moral structure	3	2%	
		C12. Urbanization and increase in manners	4	3%	
		C13. Non-conservative society	10	6%	
		C14. A society subjected to oppression and violence	6	4%	
		C15. Loyal to the Ottoman Empire	2	1%	
		CTG 2: Economic situation of society			
		C1. Wealthy Society	20	13%	
		C2. Tight connection with villages and income from villages	5	3%	
		C3. A fertile place	7	4%	
	Theme 2.2: Demographic, social and economic constraints and opportunities.	CTG1: Demographic structure			
		C1. The problem of employment of qualified staff	6	4%	
		C2. Presence of small and slowly growing population	6	4%	
		C3. Homogeneous society	4	3%	18%
		CTG2: Economic activities			
		C1. Agriculture and livestock	3	2%	
		C2. The industry sector	6	4%	
		C3. Tourism and university	3	2%	
	Theme 2.2: Having an advantageous and disadvantageous regional/political location.	CTG1: Regional/politica l location			
		C1. Transportation problem	4	3%	
		C2. Being close to the Marmara Region	4	3%	5%
Total			160	100 %	100 %

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Appendix Table 5.5A. Additional Quotes on the Normative Dimension of Institutions (only for Adana case).

Theme II: Normative institutions that support or prevent the formation of innovation and entrepreneurial activities.			
Sub-themes	**Categories**	**Codes**	**Quotations**
Theme 2.1: A social structure with culture, values, beliefs and norms (cultural diversity, free thought, tolerance, good manners and strong production culture) supporting the formation of innovative thinking.	CTG 1: Collective perceptions and values	C2	*"Adana has been a cosmopolitan place since ancient times. There are Arabs, Turkmen, Kurds, such a society. There used to be a lot of Armenians in the past. There were Jews, there were Christian Arabs. Of course, because of such a structure, people have tolerance to each other. There has always been tolerance in Adana. Nobody interferes with anyone in Adana. It is a free society. Even if there is no secularism, there is individual freedom here, nobody cares about anyone." (A10).*
		C3	*"Adana's culture is not a conservative culture. The culture here did not hinder innovation, but fed it. Let me tell you, Adana is a very free place, so it is not a conservative place. It's been like this since the past. The structure of Adana is suitable for freedom and there is no religious pressure here. For example, there are very few people fasting during Ramadan. I mean, if the girls wear miniskirts and shorts, nobody's gonna turn around…" (A10)*
		C5	*"Climate affects people's attitudes and behaviors. I am an agricultural engineer, when you look at the farmers, the most open to the outside, the most open to development farmers live in temperate climate and close to the sea, whereas the most conservative ones live in terrestrial climate, barren places… Therefore, when you look at it in the context of culture, innovations always take place in such open-minded places. I am hopeful in this sense, Adana's culture is a culture that supports innovation." (A5).*
		C9 and C10	*" … Investors in Adana would have what we call secondary housing in more developed cities like Istanbul or abroad. For example, those who deal with farming or industry have a secondary residence in Istanbul and places like America and Miami. Their children usually study abroad. They first went to college in Turkey and then studied abroad in engineering, business, finance or economics. But then every child returns to their hometown, where they continue their father's business." (A6).*

Theme 2.2: Demographic, social and economic constraints and potentials.	CTG1: Demographic structure	C5	*"Adana is a place that received a lot of migration from outside. Together with these migrations, many people with an entrepreneurial spirit came here. You see, once X worked as a worker in a factory, today he became a businessman who employed around 400 workers in the OIZ. There are many examples like this in Adana." (A2).*
	CTG3: Economic activities	C1 and C2	*"Adana is actually a junction both in terms of history and industry. It is a pit, but it has fertile soil. Especially after the dam which was built after 1950, agricultural capacity increased with the arrival of irrigation. In general, in countries like us, industrialization is linked to agriculture. When you move from dry farming to irrigated agriculture, you skip a technology because dry farming technology is the most primitive technology. When you switch to irrigated agriculture, crops in irrigated agriculture are more dense crops and knowledge-intensive. The products you obtain are also suitable for industry. Due to climate conditions, especially citrus grows in our region, plus cotton." (A5)*
Theme 2.3: Having a strategically important regional/political location.	CTG1: Regional/political location	C5	*"there is a comfortable life in Adana. Is that a good thing? Of course, this is the reason why Adana receives so much migration. For example, the man comes here from Van or Kayseri, why, because the living conditions are difficult there, and in winter he pays less money when he comes here. A simple stove is enough. Food is plentiful and very cheap." (A10)*

Appendix Table 5.5B: The Frequency of Mention of Normative Pillar of
Institutions in Adana

Theme	Theme	Categories	Codes	Frequency of Mention	%	
Theme II: Normative institutions that support or prevent the formation of innovation and entreprenurial activities.	*Theme 2.1: A social structure with culture, values, beliefs and norms (cultural diversity, free thought, tolerance, good manners and strong production culture) supporting the formation of innovative thinking.*	CTG 1: Collective perceptions and values	C1. The vitality of social and cultural life	7	4%	
			C2. Cosmopolitan and cultural diversity	9	5%	
			C3. Free and non-conservative thinking	9	5%	
			C4. To be open and tolerant to differences	10	5%	
			C5. Social structure supporting innovation	5	3%	30%
			C6. High manners and culture	1	1%	
			C7.Strong production/trade/work culture	6	3%	
			C8. Resistance to change	3	2%	
			C9. Having a strong relationship with abroad and knowledge transfer	7	4%	
			C10. Having agrarian elite	1	1%	
	Theme 2.1: Demographic, social and economic constraints and potentials.	CTG1: Demographic structure	C1.Migration from surrounding provinces	8	4%	
			C2. Rich human resource	4	2%	
			C3. Unemployment and shortage of intermediate staff	3	2%	
			C4. Brain drain and capital flight	16	8%	
			C5. Immigrants' entrepreneurship and adaptation to the city	3	2%	47%
			C6. Change of demographic structure	4	2%	
		CTG2: Urbanization and urban life	C1. Urbanization and urban life	5	3%	
		CTG3: Economic activities	C1. Agricultural sector and fertile agricultural soils	25	13%	
			C2. Strong industrial sector	23	12%	
	Theme 2.2: Having a strategically important regional/political location.	CTG1: Regional/political location	C1. To be accessible	13	7%	
			C2. Proximity to raw materials and market	6	3%	
			C3. To be an attractive place for investments	5	3%	
			C4. Advantageous in terms of geography and location	8	4%	24%
			C5. Suitable climate and living conditions	10	5%	
			C6. To be an important place in the past	4	2%	
Total				195	100%	100%

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Appendix Table 5.6A. Additional Quotes on the Culture-cognitive Dimension of Institutions (for all cases).

Theme III: Having poor culture-cognitive institutionalization in terms of innovation and entrepreneurship perception.

Categories	Codes	Quotations
CTG1: Innovation perception and capacity	C1 and C2	*"Now we live in a world that is completely globalized. There is an integrated world. Therefore, the economic structure is completely different. Now you need to ensure full international competitiveness. Innovative entrepreneurship is therefore important." (V1)*
	C3	*"This province is producing with very low level technology because they mostly choose the easiest way. Here they do animal husbandry where the pasture is abundant or if they can extract natural stones, they sell natural stones or if they can produce vegetables, they sell vegetables. There is no room for technologically complex entrepreneurship." (E7).*
CTG2: Institutionalization and innovation capacity of companies	C1	*"Our company owners are boss, production manager, marketing manager, everything... Now we have to break this down. The boss will be the boss, the boss will look forward, he will not deal with the daily operation of the company, he will delegate, he will undergo the supervision...." (A1).* *"We have a traditionalist mode of production from ancestor, grandfather. Almost all of our businesses are family businesses. In other words, the industrialist is trying to do business with his own way that he saw from his ancestor and grandfather. There is no R&D, no development work. The problem is all about institutionalization." (E1)*
	C6	*"Nearly all of them (firms) work in the subsidiary industry. There is a laziness caused by the subsidiary industry work here because if you work in the subsidiary industry, you do not have to do R&D or innovation. You can renew and design yourself according to the order brought by the supplier you work for and the demands of their suppliers."*
CTG3: Inter-company networks	C1	*"Unfortunately, we have a trust problem and we do not share information as we have a trust problem... I mean, nobody does this; hey friends, I do this work, I apply this model, I follow this path, I follow this method, so I have gotten very a important achievement in this field. But, unfortunately, nobody here certainly wants to share with the others what they are doing." (V6).*
	C2	*"As you said, when we look from the outside, we can see that we have a problem about trust. In fact, the lack of partnership is also directly related to trust issues." (E2).*
	C3	*"The culture of doing business together has never developed here. Why hasn't it developed? Because there is no cooperative here and people always look at bad examples... There are many incentive programs that support doing business together, but the number of partnerships is still very weak. " (A1).*

Appendix Table 5.6B The Frequency of Mention of Culture-cognitive Pillar of Institutions in Each Case and in All Cases

Codes, Categories and Themes	Van		Elazığ		Bolu		Adana		All Cases	
	FRQ	%	FRQ	%	FRQ	%	FRQ	%	FRQ	%
Theme III: Having weak perception of innovation and entrepreneurship in terms of culture-cognitive institution.	**120**	**100%**	**114**	**100%**	**175**	**100%**	**127**	**100%**	**536**	**100%**
CTG1: Innovation perception and capacity	**30**	**25%**	**26**	**23%**	**15**	**9%**	**21**	**17%**	**92**	**17%**
C1. The importance of innovation	5	4%	0	0%	0	0%	15	12%	20	4%
C2. Global innovative developments	3	3%	4	4%	5	3%	2	2%	14	3%
C3. Low innovation activities	8	7%	5	4%	6	3%	0	0%	19	4%
C4. Recent increases in the innovation and R&D activities	7	6%	8	7%	0	0%	0	0%	15	3%
C5. R&D and innovation supports	7	6%	4	4%	0	0%	0	0%	11	2%
C6. Industry and production activities in the past	0	0%	5	4%	0	0%	0	0%	5	1%
C7. Use of techno park outside of purpose	0	0%	0	0%	4	2%	0	0%	4	1%
C8. Increasing importance of innovation activities	0	0%	0	0%	0	0%	4	3%	4	1%
CTG2: Institutionalization and innovation capacity of companies	**31**	**26%**	**32**	**28%**	**62**	**35%**	**42**	**33%**	**167**	**31%**
C1. Traditional corporate structure and institutionalization problem	19	16%	10	9%	12	7%	35	28%	76	14%
C2. Low R&D, innovation and knowledge capacity	2	2%	8	7%	22	13%	5	4%	37	7%
C3. Low technology and low value-added production	3	3%	10	9%	9	5%	2	2%	24	4%
C4. Low financial capacity	1	1%	4	4%	2	1%	0	0%	7	1%
C5. Unplanned and sudden growth desire (Fast rich desire)	6	5%	0	0%	0	0%	0	0%	6	1%
C6. Subsidiary industry is an obstacle to innovation	0	0%	0	0%	17	10%	0	0%	17	3%
CTG3: Inter-company networks	**29**	**24%**	**21**	**18%**	**30**	**17%**	**35**	**28%**	**115**	**21%**
C1. Limited knowledge spillover/sharing among companies	7	6%	6	5%	8	5%	6	5%	27	5%
C2. Fierce competition and low trust among companies	11	9%	9	8%	5	3%	10	8%	35	7%

C3. Weak cooperation/partnership culture	11	9%	6	5%	17	10%	17	13%	51	10%
C4. Development of cooperation/partnership culture	0	0%	0	0%	0	0%	2	2%	2	0%
CTG4: Entrepreneurship culture	**13**	**11%**	**9**	**8%**	**18**	**10%**	**16**	**13%**	**56**	**10%**
C1. Weak entrepreneurial culture	4	3%	2	2%	12	7%	0	0%	18	3%
C2. Development of entrepreneurial culture	7	6%	7	6%	6	3%	0	0%	20	4%
C3. Low level of university-industry cooperation	2	2%	0	0%	0	0%	0	0%	2	0%
C4. Existing of a strong entrepreneurial culture	0	0%	0	0%	0	0%	16	13%	16	3%
CTG5: Perception of entrepreneurship	**17**	**14%**	**26**	**23%**	**23**	**13%**	**13**	**10%**	**79**	**15%**
C1. Individual risk-taking tendency	5	4%	20	18%	15	9%	9	7%	49	9%
C2. Entrepreneurs as role models	12	10%	6	5%	8	5%	4	3%	30	6%
CTG6: Industrial structure	**0**	**0%**	**0**	**0%**	**27**	**15%**	**0**	**0%**	**27**	**5%**
C1. Weak industrial structure	0	0%	0	0%	7	4%	0	0%	7	1%
C2. High staff productivity	0	0%	0	0%	2	1%	0	0%	2	0%
C3. Existence of large firms	0	0%	0	0%	16	9%	0	0%	16	3%
C4. Clustering potential	0	0%	0	0%	2	1%	0	0%	2	0%

D. Quantitative Research Findings (Chapter 6)

Appendix Table 6.1A. Descriptive Statistics of the Items in Regulative Dimension

Items	N	Min.	Max.	Mean	Std. D.	Var.	Skewness		Kurtosis	
							Stat.	Std. E.	Stat.	Std. E.
R1	170	1	5	2,84	1,26	1,58	0,19	0,19	-1,01	0,37
R2	170	1	5	2,04	1,08	1,16	1,02	0,19	0,44	0,37
R3	170	1	5	2,61	1,26	1,59	0,46	0,19	-0,80	0,37
R4	170	1	5	2,68	1,26	1,59	0,39	0,19	-0,94	0,37
R5	170	1	5	1,86	0,97	0,95	1,13	0,19	0,73	0,37
R6	170	1	5	3,15	1,31	1,71	-0,24	0,19	-1,05	0,37
R7	170	1	5	2,66	1,27	1,62	0,32	0,19	-1,08	0,37
R8	170	1	5	2,57	1,13	1,28	0,26	0,19	-0,92	0,37
R9	170	1	5	2,68	1,31	1,71	0,23	0,19	-1,20	0,37
R10	170	1	5	2,34	1,25	1,56	0,60	0,19	-0,74	0,37
R11	170	1	5	2,47	1,15	1,33	0,41	0,19	-0,81	0,37
R12	170	1	5	2,58	1,04	1,07	0,21	0,19	-0,85	0,37
R13	170	1	5	2,55	1,26	1,60	0,27	0,19	-1,19	0,37
R14	170	1	5	2,66	1,18	1,38	0,11	0,19	-1,10	0,37
R15	170	1	5	2,55	1,20	1,45	0,21	0,19	-1,09	0,37
R16	170	1	5	2,36	1,18	1,38	0,34	0,19	-1,07	0,37
R17	170	1	5	2,76	1,14	1,29	0,08	0,19	-0,83	0,37
R18	170	1	5	2,84	1,20	1,45	0,06	0,19	-0,86	0,37
R19	170	1	5	2,82	1,28	1,64	0,07	0,19	-1,07	0,37
R20	170	1	5	2,45	1,07	1,15	0,24	0,19	-0,87	0,37
R21	170	1	5	2,39	1,12	1,25	0,43	0,19	-0,65	0,37
R22	170	1	5	2,58	1,26	1,60	0,13	0,19	-1,25	0,37
R23	170	1	5	2,42	1,17	1,36	0,37	0,19	-0,91	0,37
R24	170	1	5	2,04	1,06	1,12	0,90	0,19	0,19	0,37
R25	170	1	5	2,62	1,23	1,50	0,19	0,19	-1,00	0,37
R26	170	1	5	1,78	1,05	1,11	1,19	0,19	0,23	0,37
R27	170	1	5	1,81	1,00	1,00	0,98	0,19	-0,11	0,37
R28	170	1	5	1,81	1,03	1,06	1,26	0,19	0,95	0,37
R29	170	1	5	1,71	0,97	0,93	1,38	0,19	1,42	0,37
R30	170	1	5	1,75	1,06	1,13	1,49	0,19	1,57	0,37
R31	170	1	5	2,59	1,33	1,77	0,26	0,19	-1,21	0,37
R32	170	1	5	2,04	1,14	1,30	0,85	0,19	-0,28	0,37
R33	170	1	5	2,44	1,40	1,96	0,52	0,19	-1,11	0,37
Valid N	170									

Appendix Table 6.1B. Descriptive Statistics of the Items in Normative Dimension

Items	N	Min.	Max.	Mean	Std. D.	Var.	Skewness		Kurtosis	
							Stat.	Std. E.	Stat.	Std. E.
N1	170	1	5	3,14	1,24	1,54	-0,05	0,19	-1,20	0,37
N2	170	1	5	2,58	1,10	1,20	0,47	0,19	-0,65	0,37
N3	170	1	5	2,91	1,21	1,47	0,04	0,19	-1,11	0,37
N4	170	1	5	2,35	1,28	1,63	0,73	0,19	-0,51	0,37
N5	170	1	5	2,58	1,30	1,70	0,52	0,19	-0,86	0,37
N6	170	1	5	3,26	1,30	1,68	-0,18	0,19	-1,14	0,37
N7	170	1	5	3,34	1,24	1,54	-0,35	0,19	-0,95	0,37

Items	N	Min.	Max.	Mean	Std. D.	Var.	Skewness		Kurtosis	
							Stat.	Std. E.	Stat.	Std. E.
N8	170	1	5	3,63	1,28	1,63	-0,64	0,19	-0,75	0,37
N9	170	1	5	3,16	1,43	2,06	-0,11	0,19	-1,41	0,37
N10	170	1	5	2,39	1,26	1,59	0,74	0,19	-0,49	0,37
N11	170	1	5	3,25	1,23	1,51	-0,23	0,19	-1,02	0,37
N12	170	1	5	4,08	1,09	1,20	-1,31	0,19	1,15	0,37
N13	170	1	5	3,79	1,10	1,22	-0,76	0,19	-0,09	0,37
N14	170	1	5	2,96	1,14	1,29	-0,16	0,19	-0,97	0,37
N15	170	1	5	2,24	1,10	1,21	0,93	0,19	0,35	0,37
N16	170	1	5	3,06	1,20	1,45	0,12	0,19	-1,11	0,37
N17	170	1	5	2,91	1,24	1,53	0,28	0,19	-1,03	0,37
N18	170	1	5	3,45	1,29	1,67	-0,38	0,19	-1,04	0,37
N19	170	1	5	3,58	1,29	1,65	-0,48	0,19	-1,01	0,37
N20	170	2	5	4,32	0,80	0,64	-1,13	0,19	0,88	0,37
N21	170	1	5	2,81	1,17	1,38	0,14	0,19	-0,84	0,37
N22	170	1	5	2,70	1,29	1,67	0,39	0,19	-1,01	0,37
N23	170	1	5	2,31	1,12	1,25	0,39	0,19	-0,92	0,37
N24	170	1	5	3,81	1,19	1,42	-0,80	0,19	-0,39	0,37
N25	170	1	5	3,61	1,14	1,30	-0,59	0,19	-0,61	0,37
N26	170	1	5	3,31	1,26	1,59	-0,36	0,19	-0,94	0,37
N27	170	1	5	3,04	1,37	1,89	-0,03	0,19	-1,33	0,37
N28	170	1	5	3,10	1,30	1,69	-0,04	0,19	-1,25	0,37
N29	170	1	5	3,45	1,13	1,28	-0,39	0,19	-0,83	0,37
N30	170	1	5	3,23	1,26	1,59	-0,10	0,19	-1,14	0,37
Valid N	170									

Appendix Table 6.1C. Descriptive Statistics of the Items in Culture-cognitive Dimension

Items	N	Min.	Max.	Mean	Std. D.	Var.	Skewness		Kurtosis	
							Stat.	Std. E.	Stat.	Std. E.
C1	170	1	4	2,08	0,77	0,60	0,79	0,19	0,77	0,37
C2	170	1	5	2,17	0,99	0,98	1,31	0,19	1,88	0,37
C3	170	1	5	2,49	1,09	1,20	0,66	0,19	-0,45	0,37
C4	170	1	5	2,69	1,16	1,34	0,52	0,19	-0,68	0,37
C5	170	1	5	2,22	1,02	1,04	0,78	0,19	0,18	0,37
C6	170	1	5	3,12	1,31	1,73	-0,13	0,19	-1,22	0,37
C7	170	1	5	2,32	1,13	1,28	0,49	0,19	-0,73	0,37
C8	170	1	5	2,75	1,13	1,27	0,24	0,19	-0,87	0,37
C9	170	1	5	2,42	1,08	1,17	0,40	0,19	-0,85	0,37
C10	170	1	5	2,61	1,17	1,38	0,50	0,19	-0,69	0,37
C11	170	1	5	2,54	1,13	1,28	0,48	0,19	-0,66	0,37
C12	170	1	5	2,78	1,08	1,16	0,26	0,19	-0,69	0,37
C13	170	1	5	2,85	1,14	1,31	0,24	0,19	-0,94	0,37
C14	170	1	5	2,72	1,06	1,12	0,39	0,19	-0,80	0,37
C15	170	1	5	3,41	1,00	1,00	-0,64	0,19	-0,30	0,37
C16	170	1	5	2,62	1,19	1,41	0,46	0,19	-0,85	0,37
C17	170	1	5	2,97	1,17	1,37	-0,08	0,19	-1,05	0,37
C18	170	1	5	3,58	0,95	0,91	-0,61	0,19	0,00	0,37
C19	170	1	5	3,81	1,02	1,03	-0,94	0,19	0,40	0,37
C20	170	1	5	2,40	0,98	0,95	0,17	0,19	-0,62	0,37
C21	170	1	5	1,95	0,89	0,78	0,83	0,19	0,37	0,37
C22	170	1	5	3,59	1,01	1,03	-0,76	0,19	0,00	0,37
C23	170	1	5	3,32	1,12	1,25	-0,39	0,19	-0,86	0,37
C24	170	1	5	2,35	1,03	1,06	0,50	0,19	-0,52	0,37
Valid N	170									

Appendix Table 6.1D. Descriptive Statistics of the Factors extracted from Different Item Groups

	Variables/Factors	N	Min	Max	Mean	Std. D.	Var.	Skewness Stat.	Skewness Std. E.	Kurtosis Stat.	Kurtosis Std. E.
REGULATIVE	Supportive government bodies.	170	1,09	4,55	2,57	0,77	0,60	0,22	0,19	-0,68	0,37
	Advantageous government incentives and supports.	170	1	4,75	2,56	0,89	0,79	0,10	0,19	-0,51	0,37
	Fair business environment.	170	1	4,75	2,47	0,85	0,72	0,28	0,19	-0,50	0,37
	Well-functioning bureaucratic procedures.	170	1	5	2,49	0,90	0,81	0,54	0,19	0,15	0,37
	Accessible financial resources.	170	1	5	2,56	0,81	0,66	0,60	0,19	0,29	0,37
	Supportive local organisations.	170	1	4,5	1,99	0,81	0,66	0,72	0,19	-0,18	0,37
NORMATIVE	A collaborative society.	170	1	5	2,60	0,99	0,97	0,49	0,19	-0,49	0,37
	Openness to new ideas and information.	170	1	5	3,34	1,03	1,07	-0,16	0,19	-0,76	0,37
	Diversity and tolerance.	170	1	5	3,71	0,93	0,86	-0,49	0,19	-0,09	0,37
	No fear of failure.	170	1	5	2,78	1,18	1,39	0,22	0,19	-0,87	0,37
	Income effect.	170	1	5	3,51	1,14	1,29	-0,35	0,19	-0,78	0,37
	The level of education and urbanization.	170	1	5	2,79	0,86	0,75	0,22	0,19	-0,39	0,37
	Strategic location.	170	1,17	5	3,62	0,77	0,60	-0,29	0,19	-0,15	0,37
	Proximity to the market and raw materials.	170	1	5	3,07	1,23	1,51	-0,04	0,19	-1,04	0,37
	Supportive political environment.	170	1	5	2,61	0,87	0,75	0,07	0,19	-0,30	0,37
CULTURE-COGNITIVE	Networks among entrepreneurs.	170	1	4,6	2,53	0,89	0,79	0,47	0,19	-0,74	0,37
	Institutionalization and innovation capacity.	170	1	4,83	2,46	0,69	0,48	0,79	0,19	0,98	0,37
	Individual risk-taking and uncertainty-bearing tendency.	170	1	5	2,88	0,79	0,63	0,31	0,19	-0,37	0,37
	Dissemination of the entrepreneurship culture (Media Impact).	170	1	4,33	2,23	0,71	0,51	0,18	0,19	-0,47	0,37
	Entrepreneurial skills. knowledge, experience.	170	1,33	5	3,45	0,74	0,55	-0,37	0,19	0,06	0,37
	Role models.	170	1	5	3,46	0,98	0,95	-0,51	0,19	-0,30	0,37
	Valid N (listwise)	170									

Appendix Table 6.1E: The Correlations between Factors extracted from Different Item Groups

Appendix Table 6.1E: The Correlations between Factors extracted from Different Item Groups

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 Supportive government bodies.	1																				
2 Advantageous government incentives and supports.	,446**	1																			
3 Fair business environment.	,580**	,293**	1																		
4 Well-functioning bureaucratic procedures.	,317**	,165*	,302**	1																	
5 Accessible financial resources.	,168*	,129	,187*	,102	1																
6 Supportive local organisations.	,443**	,324**	,269**	,126	,054	1															
7 A collaborative society.	,301**	,140	,362**	,121	,386**	,167*	1														
8 Openness to new ideas and information.	,184*	,054	,254**	,191*	,363**	,062	,585**	1													
9 Diversity and tolerance.	,132	,195*	,106	-,034	,141	,075	,490**	,386**	1												
10 No fear of failure.	,139	,273**	,201**	,149	,142	,173*	,384**	,403**	,344**	1											
11 Income effect.	,044	,127	-,019	-,049	,100	,082	,365**	,359**	,522**	,467*	1										
12 The level of education and urbanization.	,202**	,101	,263**	,220**	,357**	,155*	,540**	,622**	,304**	,414*	,394**	1									
13 Strategic location	,144	,185*	,032	-,012	,294**	,068	,368**	,321**	,425**	,222*	,365**	,407*	1								
14 Proximity to the market and raw materials.	,030	-,072	,102	,153*	,346**	-,078	,432**	,445**	,119	,082	,110	,448*	,464**	1							
15 Supportive political environment.	,454**	,248**	,371**	,277**	,170*	,209*	,208**	,134	,065	,025	-,047	,221*	,169*	,133	1						
16 Networks among entrepreneurs.	,325**	,268**	,273**	,125	,382**	,256*	,574**	,409**	,375**	,235*	,281**	,368**	,340**	,319*	,345**	1					
17 Institutionalization and innovation capacity.	,314**	,168*	,377**	,145	,263**	,151*	,505**	,531**	,308**	,367*	,361**	,574*	,347**	,342**	,253*	,516**	1				
18 Individual risk-taking and uncertainty-bearing tendency.	,159*	,112	,133	-,014	,240**	,056	,459**	,344**	,540**	,385*	,425**	,370*	,527**	,338*	,142	,429**	,462**	1			
19 Dissemination of the entrepreneurship culture (Media Impact).	,451**	,215*	,309**	,223**	,168*	,289*	,249**	,062	-,103	-,009	-,091	,116	-,012	,092	,378*	,292**	,210**	,054	1		
20 Entrepreneurial skills. knowledge, experience.	,133	,036	,141	,023	,307**	,155*	,330**	,305**	,174*	,106	,241**	,277*	,348*	,229*	,152*	,374**	,333**	,232*	,075	1	
21 Role models.	,160*	,175*	,039	,121	,302**	,185*	,273**	,047	,232**	,033	,174*	,074	,337**	,113	,135	,372**	,208**	,291*	,117	,322**	1

Note: **is significant at the 0.01 level; * is significant at the 0.05 level (2-tailed).

Appendix Table 6.1F: Descriptive Statistics of the Factors extracted from Different Item Groups (across the Cases)

Appendix Table 6.1F: Descriptive Statistics of the Factors extracted from Different Item Groups (across the Cases)

	Variables/Factors	VAN			ELAZIĞ			BOLU			ADANA			ALL CASES		
		N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.
REGULATIVE	Supportive government bodies.	36	2,34	0,88	39	2,65	0,82	33	2,58	0,78	62	2,64	0,67	170	2,57	0,77
	Advantageous government incentives and supports.	36	2,78	0,95	39	2,80	0,77	33	2,06	0,74	62	2,55	0,91	170	2,56	0,89
	Fair business environment.	36	2,11	0,90	39	2,61	0,75	33	2,75	0,78	62	2,44	0,86	170	2,47	0,85
	Well-functioning bureaucratic procedures.	36	2,21	0,99	39	2,44	0,83	33	2,78	0,97	62	2,54	0,81	170	2,49	0,90
	Accessible financial resources.	36	2,18	0,70	39	2,27	0,59	33	2,46	0,79	62	3,03	0,79	170	2,56	0,81
	Supportive local organisations.	36	1,80	0,47	39	2,24	0,84	33	1,84	0,81	62	2,02	0,91	170	1,99	0,81
NORMATIVE	A collaborative society.	36	2,06	0,64	39	2,26	0,74	33	2,38	0,92	62	3,25	0,98	170	2,60	0,99
	Openness to new ideas and information.	36	2,83	0,94	39	2,97	0,86	33	3,37	0,81	62	3,86	1,06	170	3,34	1,03
	Diversity and tolerance.	36	3,81	0,85	39	3,57	0,87	33	2,93	0,90	62	4,14	0,73	170	3,71	0,93
	No fear of failure.	36	2,76	1,02	39	3,06	1,00	33	1,98	0,82	62	3,02	1,34	170	2,78	1,18
	Income effect.	36	3,58	1,19	39	3,69	0,83	33	2,50	0,98	62	3,90	1,05	170	3,51	1,14
	The level of education and urbanization.	36	2,15	0,59	39	2,80	0,69	33	2,92	0,56	62	3,09	1,03	170	2,79	0,86
	Strategic location/ Having historically and geographically critical strategic position.	36	3,19	0,75	39	3,55	0,70	33	3,24	0,56	62	4,12	0,65	170	3,62	0,77
	Proximity to the market and raw materials.	36	2,07	0,94	39	2,59	0,99	33	3,55	1,15	62	3,70	1,05	170	3,07	1,23
	Supportive political environment.	36	2,15	0,79	39	2,62	0,94	33	2,85	0,87	62	2,73	0,78	170	2,61	0,87
CULTURE-COGNITIVE	Networks among entrepreneurs.	36	2,29	0,78	39	2,25	0,78	33	2,26	0,83	62	2,98	0,87	170	2,53	0,89
	Institutionalization and innovation capacity.	36	2,17	0,38	39	2,39	0,49	33	2,24	0,60	62	2,79	0,84	170	2,46	0,69
	Individual risk-taking and uncertainty-bearing tendency.	36	2,58	0,76	39	2,87	0,57	33	2,35	0,53	62	3,33	0,80	170	2,88	0,79
	Dissemination of the entrepreneurship culture (Media Impact).	36	1,84	0,58	39	2,30	0,67	33	2,28	0,62	62	2,39	0,78	170	2,23	0,71
	Entrepreneurial skills. knowledge, experience.	36	3,31	0,74	39	3,16	0,74	33	3,31	0,62	62	3,80	0,69	170	3,45	0,74
	Role models.	36	3,67	0,70	39	3,03	0,99	33	3,09	0,88	62	3,80	1,00	170	3,46	0,98
	Valid N (listwise)	36			39			33			62			170		

Appendix Table 6.2A. Post Hoc Comparisons of Regulative Dimension Factors

Dependent Variable	Provinces (I)	Provinces (J)	Mean Dif. (I-J)	Std. Er.	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Supportive government bodies.	Van	Elazığ	-0,31	0,20	0,394	-0,83	0,21
		Bolu	-0,24	0,20	0,628	-0,77	0,29
		Adana	-0,30	0,17	0,305	-0,75	0,15
	Elazığ	Van	0,31	0,20	0,394	-0,21	0,83
		Bolu	0,07	0,19	0,981	-0,42	0,57
		Adana	0,01	0,16	1,000	-0,40	0,42
	Bolu	Van	0,24	0,20	0,628	-0,29	0,77
		Elazığ	-0,07	0,19	0,981	-0,57	0,42
		Adana	-0,06	0,16	0,984	-0,48	0,36
	Adana	Van	0,30	0,17	0,305	-0,15	0,75
		Elazığ	-0,01	0,16	1,000	-0,42	0,40
		Bolu	0,06	0,16	0,984	-0,36	0,48
Advantageous government incentives and supports.	Van	Elazığ	-0,02	0,20	0,999	-0,55	0,50
		Bolu	**,7172***	0,20	0,004	0,18	1,25
		Adana	0,23	0,20	0,658	-0,29	0,74
	Elazığ	Van	0,02	0,20	0,999	-0,50	0,55
		Bolu	**,7407***	0,18	0,000	0,27	1,21
		Adana	0,25	0,17	0,456	-0,19	0,69
	Bolu	Van	**-,7172***	0,20	0,004	-1,25	-0,18
		Elazığ	**-,7407***	0,18	0,000	-1,21	-0,27
		Adana	**-,4918***	0,17	0,028	-0,94	-0,04
	Adana	Van	-0,23	0,20	0,658	-0,74	0,29
		Elazığ	-0,25	0,17	0,456	-0,69	0,19
		Bolu	**,4918***	0,17	0,028	0,04	0,94
Fair business environment.	Van	Elazığ	-0,50	0,19	0,053	-1,00	0,01
		Bolu	**-,6389***	0,20	0,012	-1,17	-0,11
		Adana	-0,33	0,18	0,292	-0,81	0,16
	Elazığ	Van	0,50	0,19	0,053	-0,01	1,00
		Bolu	-0,14	0,18	0,863	-0,62	0,34
		Adana	0,17	0,16	0,721	-0,25	0,59
	Bolu	Van	**,6389***	0,20	0,012	0,11	1,17
		Elazığ	0,14	0,18	0,863	-0,34	0,62
		Adana	0,31	0,17	0,290	-0,15	0,77
	Adana	Van	0,33	0,18	0,292	-0,16	0,81
		Elazığ	-0,17	0,16	0,721	-0,59	0,25
		Bolu	-0,31	0,17	0,290	-0,77	0,15
Well-functioning bureaucratic procedures.	Van	Elazığ	-0,22	0,21	0,718	-0,78	0,33
		Bolu	-0,56	0,24	0,088	-1,19	0,06
		Adana	-0,32	0,19	0,348	-0,84	0,19
	Elazığ	Van	0,22	0,21	0,718	-0,33	0,78
		Bolu	-0,34	0,21	0,390	-0,91	0,22
		Adana	-0,10	0,17	0,930	-0,54	0,34
	Bolu	Van	0,56	0,24	0,088	-0,06	1,19
		Elazığ	0,34	0,21	0,390	-0,22	0,91
		Adana	0,24	0,20	0,621	-0,28	0,76
	Adana	Van	0,32	0,19	0,348	-0,19	0,84
		Elazığ	0,10	0,17	0,930	-0,34	0,54
		Bolu	-0,24	0,20	0,621	-0,76	0,28
Accessible financial resources.	Van	Elazığ	-0,09	0,15	0,934	-0,49	0,31
		Bolu	-0,29	0,18	0,389	-0,77	0,19
		Adana	**-,8563***	0,15	0,000	-1,26	-0,45

	Provinces (I)	Provinces (J)	Mean Dif. (I-J)	Std. Er.	Sig.	Lower B.	Upper B.
	Elazığ	Van	0,09	0,15	0,934	-0,31	0,49
		Bolu	-0,20	0,17	0,636	-0,64	0,24
		Adana	**-,7673***	0,14	0,000	-1,13	-0,41
	Bolu	Van	0,29	0,18	0,389	-0,19	0,77
		Elazığ	0,20	0,17	0,636	-0,24	0,64
		Adana	**-,5676***	0,17	0,008	-1,02	-0,12
	Adana	Van	**,8563***	0,15	0,000	0,45	1,26
		Elazığ	**,7673***	0,14	0,000	0,41	1,13
		Bolu	**,5676***	0,17	0,008	0,12	1,02
	Van	Elazığ	**-,4420***	0,16	0,030	-0,85	-0,03
		Bolu	-0,04	0,16	0,994	-0,47	0,39
		Adana	-0,23	0,14	0,360	-0,59	0,14
	Elazığ	Van	**,4420***	0,16	0,030	0,03	0,85
		Bolu	0,40	0,19	0,178	-0,11	0,91
Supportive local organizations.		Adana	0,21	0,18	0,628	-0,25	0,68
	Bolu	Van	0,04	0,16	0,994	-0,39	0,47
		Elazığ	-0,40	0,19	0,178	-0,91	0,11
		Adana	-0,19	0,18	0,735	-0,67	0,29
	Adana	Van	0,23	0,14	0,360	-0,14	0,59
		Elazığ	-0,21	0,18	0,628	-0,68	0,25
		Bolu	0,19	0,18	0,735	-0,29	0,67

Notes: ***: p < 0.001, **: p < 0.01, *: p < 0.05 (two-tailed test).

Appendix Table 6.2B. Post Hoc Comparisons of the Normative Dimension Factors

Dependent Variable	Provinces (I)	Provinces (J)	Mean Dif. (I-J)	Std. Er.	Sig.	95% Confidence Interval	
						Lower B.	Upper B.
	Van	Elazığ	-0,19	0,16	0,621	-0,61	0,23
		Bolu	-0,32	0,19	0,363	-0,83	0,19
		Adana	**-1,1915***	0,16	0,000	-1,62	-0,76
	Elazığ	Van	0,19	0,16	0,621	-0,23	0,61
		Bolu	-0,12	0,20	0,927	-0,65	0,40
A collaborative society.		Adana	**-,9976***	0,17	0,000	-1,45	-0,55
	Bolu	Van	0,32	0,19	0,363	-0,19	0,83
		Elazığ	0,12	0,20	0,927	-0,40	0,65
		Adana	**-,8752***	0,20	0,000	-1,41	-0,34
	Adana	Van	**1,1915***	0,16	0,000	0,76	1,62
		Elazığ	**,9976***	0,17	0,000	0,55	1,45
		Bolu	**,8752***	0,20	0,000	0,34	1,41
	Van	Elazığ	-0,14	0,21	0,906	-0,69	0,41
		Bolu	-0,54	0,21	0,057	-1,10	0,01
		Adana	**-1,0365***	0,21	0,000	-1,58	-0,49
	Elazığ	Van	0,14	0,21	0,906	-0,41	0,69
		Bolu	-0,40	0,20	0,180	-0,92	0,11
Openness to new ideas and information.		Adana	**-,8950***	0,19	0,000	-1,40	-0,39
	Bolu	Van	0,54	0,21	0,057	-0,01	1,10
		Elazığ	0,40	0,20	0,180	-0,11	0,92
		Adana	-0,49	0,19	0,063	-1,00	0,02
	Adana	Van	**1,0365***	0,21	0,000	0,49	1,58
		Elazığ	**,8950***	0,19	0,000	0,39	1,40
		Bolu	0,49	0,19	0,063	-0,02	1,00
Diversity and tolerance.	Van	Elazığ	0,24	0,20	0,619	-0,28	0,77
		Bolu	**,8855***	0,21	0,001	0,33	1,44

		Adana	-0,33	0,17	0,233	-0,77	0,12
	Elazığ	Van	-0,24	0,20	0,619	-0,77	0,28
		Bolu	**,6434***	0,21	0,016	0,09	1,20
		Adana	**-,5671***	0,17	0,006	-1,01	-0,13
	Bolu	Van	**-,8855***	0,21	0,001	-1,44	-0,33
		Elazığ	**-,6434***	0,21	0,016	-1,20	-0,09
		Adana	**-1,2105***	0,18	0,000	-1,70	-0,73
	Adana	Van	0,33	0,17	0,233	-0,12	0,77
		Elazığ	**,5671***	0,17	0,006	0,13	1,01
		Bolu	**1,2105***	0,18	0,000	0,73	1,70
	Van	Elazığ	-0,30	0,23	0,577	-0,92	0,32
		Bolu	**,7790***	0,22	0,005	0,19	1,37
		Adana	-0,26	0,24	0,703	-0,89	0,37
	Elazığ	Van	0,30	0,23	0,577	-0,32	0,92
		Bolu	**1,0793***	0,22	0,000	0,51	1,65
No fear of failure.	Bolu	Adana	0,04	0,23	0,998	-0,57	0,65
		Van	**-,7790***	0,22	0,005	-1,37	-0,19
		Elazığ	**-1,0793***	0,22	0,000	-1,65	-0,51
		Adana	**-1,0393***	0,22	0,000	-1,62	-0,46
	Adana	Van	0,26	0,24	0,703	-0,37	0,89
		Elazığ	-0,04	0,23	0,998	-0,65	0,57
		Bolu	**1,0393***	0,22	0,000	0,46	1,62
	Van	Elazığ	-0,11	0,24	0,968	-0,74	0,52
		Bolu	**1,0833***	0,26	0,001	0,39	1,77
		Adana	-0,31	0,24	0,564	-0,94	0,32
	Elazığ	Van	0,11	0,24	0,968	-0,52	0,74
		Bolu	**1,1923***	0,22	0,000	0,62	1,77
Income effect.	Bolu	Adana	-0,20	0,19	0,704	-0,70	0,29
		Van	**-1,0833***	0,26	0,001	-1,77	-0,39
		Elazığ	**-1,1923***	0,22	0,000	-1,77	-0,62
		Adana	**-1,3952***	0,22	0,000	-1,97	-0,82
	Adana	Van	0,31	0,24	0,564	-0,32	0,94
		Elazığ	0,20	0,19	0,704	-0,29	0,70
		Bolu	**1,3952***	0,22	0,000	0,82	1,97
	Van	Elazığ	**-,6554***	0,15	0,000	-1,04	-0,27
		Bolu	**-,7784***	0,14	0,000	-1,14	-0,42
		Adana	**-,9469***	0,16	0,000	-1,37	-0,52
	Elazığ	Van	**,6554***	0,15	0,000	0,27	1,04
		Bolu	-0,12	0,15	0,837	-0,51	0,26
The level of education and urbanization.	Bolu	Adana	-0,29	0,17	0,328	-0,74	0,16
		Van	**,7784***	0,14	0,000	0,42	1,14
		Elazığ	0,12	0,15	0,837	-0,26	0,51
		Adana	-0,17	0,16	0,729	-0,59	0,26
	Adana	Van	**,9469***	0,16	0,000	0,52	1,37
		Elazığ	0,29	0,17	0,328	-0,16	0,74
		Bolu	0,17	0,16	0,729	-0,26	0,59
	Van	Elazığ	-0,35	0,17	0,164	-0,79	0,09
		Bolu	-0,05	0,16	0,990	-0,47	0,37
		Adana	**-,9238***	0,15	0,000	-1,32	-0,53
Strategic location/ Having historically and geographically critical strategic position.	Elazığ	Van	0,35	0,17	0,164	-0,09	0,79
		Bolu	0,30	0,15	0,178	-0,09	0,69
		Adana	**-,5713***	0,14	0,001	-0,94	-0,21
	Bolu	Van	0,05	0,16	0,990	-0,37	0,47
		Elazığ	-0,30	0,15	0,178	-0,69	0,09
		Adana	**-,8759***	0,13	0,000	-1,21	-0,54
	Adana	Van	**,9238***	0,15	0,000	0,53	1,32
		Elazığ	**,5713***	0,14	0,001	0,21	0,94
		Bolu	**,8759***	0,13	0,000	0,54	1,21

Dependent Variable	Provinces (I)	Provinces (J)	Mean Dif. (I-J)	Std. Er.	Sig.	Lower B.	Upper B.
	Van	Elazığ	-0,52	0,22	0,099	-1,11	0,07
		Bolu	**-1,4760***	0,25	0,000	-2,15	-0,81
		Adana	**-1,6322***	0,21	0,000	-2,17	-1,09
	Elazığ	Van	0,52	0,22	0,099	-0,07	1,11
		Bolu	**-,9557***	0,25	0,002	-1,63	-0,28
Proximity to the market and raw materials.		Adana	**-1,1119***	0,21	0,000	-1,65	-0,57
	Bolu	Van	**1,4760***	0,25	0,000	0,81	2,15
		Elazığ	**,9557***	0,25	0,002	0,28	1,63
		Adana	-0,16	0,24	0,915	-0,79	0,48
	Adana	Van	**1,6322***	0,21	0,000	1,09	2,17
		Elazığ	**1,1119***	0,21	0,000	0,57	1,65
		Bolu	0,16	0,24	0,915	-0,48	0,79
	Van	Elazığ	-0,48	0,20	0,092	-1,00	0,05
		Bolu	**-,7003***	0,20	0,005	-1,23	-0,17
		Adana	**-,5830***	0,17	0,004	-1,02	-0,15
	Elazığ	Van	0,48	0,20	0,092	-0,05	1,00
		Bolu	-0,22	0,21	0,720	-0,79	0,34
Supportive political environment.		Adana	-0,11	0,18	0,933	-0,58	0,37
	Bolu	Van	**,7003***	0,20	0,005	0,17	1,23
		Elazığ	0,22	0,21	0,720	-0,34	0,79
		Adana	0,12	0,18	0,915	-0,36	0,59
	Adana	Van	**,5830***	0,17	0,004	0,15	1,02
		Elazığ	0,11	0,18	0,933	-0,37	0,58
		Bolu	-0,12	0,18	0,915	-0,59	0,36

Notes: ***: p < 0.001, **: p < 0.01, *: p < 0.05 (two-tailed test).

Appendix Table 6.2C. Post Hoc Comparisons of the Culture-cognitive Dimension Factors

Dependent Variable	Provinces (I)	Provinces (J)	Mean Dif. (I-J)	Std. Er.	Sig.	95% Confidence Interval	
						Lower B.	Upper B.
	Van	Elazığ	0,04	0,18	0,997	-0,44	0,51
		Bolu	0,03	0,19	0,999	-0,48	0,54
		Adana	**-,6918***	0,17	0,001	-1,14	-0,24
	Elazığ	Van	-0,04	0,18	0,997	-0,51	0,44
		Bolu	-0,01	0,19	1,000	-0,51	0,49
Networks among entrepreneurs.		Adana	**-,7294***	0,17	0,000	-1,17	-0,29
	Bolu	Van	-0,03	0,19	0,999	-0,54	0,48
		Elazığ	0,01	0,19	1,000	-0,49	0,51
		Adana	**-,7200***	0,18	0,001	-1,20	-0,24
	Adana	Van	**,6918***	0,17	0,001	0,24	1,14
		Elazığ	**,7294***	0,17	0,000	0,29	1,17
		Bolu	**,7200***	0,18	0,001	0,24	1,20
	Van	Elazığ	-0,23	0,10	0,123	-0,49	0,04
		Bolu	-0,07	0,12	0,938	-0,39	0,25
		Adana	**-,6263***	0,12	0,000	-0,95	-0,30
	Elazığ	Van	0,23	0,10	0,123	-0,04	0,49
		Bolu	0,16	0,13	0,634	-0,19	0,50
Institutionalization and innovation capacity.		Adana	**-,3998***	0,13	0,018	-0,75	-0,05
	Bolu	Van	0,07	0,12	0,938	-0,25	0,39
		Elazığ	-0,16	0,13	0,634	-0,50	0,19
		Adana	**-,5556***	0,15	0,002	-0,95	-0,16
	Adana	Van	**,6263***	0,12	0,000	0,30	0,95
		Elazığ	**,3998***	0,13	0,018	0,05	0,75

		Bolu	**,5556***	0,15	0,002	0,16	0,95
	Van	Elazığ	-0,29	0,16	0,247	-0,71	0,12
		Bolu	0,23	0,16	0,483	-0,19	0,64
		Adana	**-,7513***	0,16	0,000	-1,18	-0,32
	Elazığ	Van	0,29	0,16	0,247	-0,12	0,71
Individual risk-taking and uncertainty-bearing tendency.		Bolu	**,5203***	0,13	0,001	0,18	0,86
		Adana	**-,4572***	0,14	0,006	-0,81	-0,10
	Bolu	Van	-0,23	0,16	0,483	-0,64	0,19
		Elazığ	**-,5203***	0,13	0,001	-0,86	-0,18
		Adana	**-,9775***	0,14	0,000	-1,34	-0,62
	Adana	Van	**,7513***	0,16	0,000	0,32	1,18
		Elazığ	**,4572***	0,14	0,006	0,10	0,81
		Bolu	**,9775***	0,14	0,000	0,62	1,34
	Van	Elazığ	**-,4566***	0,14	0,012	-0,84	-0,08
		Bolu	**-,4402***	0,15	0,018	-0,82	-0,06
		Adana	**-,5499***	0,14	0,001	-0,91	-0,19
Dissemination of the entrepreneurship culture (Media Impact).	Elazığ	Van	**,4566***	0,14	0,012	0,08	0,84
		Bolu	0,02	0,15	1,000	-0,38	0,42
		Adana	-0,09	0,15	0,918	-0,47	0,29
	Bolu	Van	**,4402***	0,15	0,018	0,06	0,82
		Elazığ	-0,02	0,15	1,000	-0,42	0,38
		Adana	-0,11	0,15	0,876	-0,49	0,27
	Adana	Van	**,5499***	0,14	0,001	0,19	0,91
		Elazığ	0,09	0,15	0,918	-0,29	0,47
		Bolu	0,11	0,15	0,876	-0,27	0,49
	Van	Elazığ	0,14	0,17	0,837	-0,31	0,59
		Bolu	-0,01	0,16	1,000	-0,44	0,43
		Adana	**-,490***	0,15	0,010	-0,89	-0,09
	Elazığ	Van	-0,14	0,17	0,837	-0,59	0,31
Entrepreneurial skills. knowledge, experience.		Bolu	-0,15	0,16	0,783	-0,57	0,27
		Adana	**-,633***	0,15	0,000	-1,02	-0,25
	Bolu	Van	0,01	0,16	1,000	-0,43	0,44
		Elazığ	0,15	0,16	0,783	-0,27	0,57
		Adana	**-,483***	0,14	0,005	-0,85	-0,12
	Adana	Van	**,490***	0,15	0,010	0,09	0,89
		Elazığ	**,633***	0,15	0,000	0,25	1,02
		Bolu	**,483***	0,14	0,005	0,12	0,85
	Van	Elazığ	**,6410***	0,20	0,009	0,12	1,16
		Bolu	**,5758***	0,19	0,020	0,07	1,08
		Adana	-0,13	0,17	0,870	-0,58	0,32
	Elazığ	Van	**-,6410***	0,20	0,009	-1,16	-0,12
		Bolu	-0,07	0,22	0,991	-0,65	0,52
Role models.		Adana	**-,7727***	0,20	0,002	-1,31	-0,24
	Bolu	Van	**-,5758***	0,19	0,020	-1,08	-0,07
		Elazığ	0,07	0,22	0,991	-0,52	0,65
		Adana	**-,7075***	0,20	0,004	-1,23	-0,18
	Adana	Van	0,13	0,17	0,870	-0,32	0,58
		Elazığ	**,7727***	0,20	0,002	0,24	1,31
		Bolu	**,7075***	0,20	0,004	0,18	1,23

Notes: ***: $p < 0.001$, **: $p < 0.01$, *: $p < 0.05$ (two-tailed test).

E. Survey Questionnaires

Appendix Table 7.1A

I. GENERAL INFORMATION

Survey No: Date: …../…./….

Participant's:

Name Surname:

Position:

Educational Background:

Personal Information:

1. Can you describe your previous work experiences?

2. How did you start this business and could you briefly describe the development from the date you started to the present?

3. 3. Do you have any other investment besides this business? Please explain.

Company Information:

4. Company Name:…………………………………

5. Company foundation date and location:……………………………

6. Field of activity of the company (NACE Rev.2): ……………………………………

7. Company type: ( ) Independent   ( ) Member of a business group

8. Indicate the partnership structure of your company:

( ) Personal ( ) Family Company ( ) Non-family domestic partners   ( ) Foreign Partners   ( ) Other

9. What were the financial resources that you used when you established your company?

i. Equity %........   ii. Personal Debts %.........

iii. Bank Credit %.....   iv. Other %............

10. Indicate the financial structure of your company:

( ) % …..Domestic capital   ( ) % …..Foreign capital

11. Please indicate the annual turnover of your company: ………………………..TL

12. Please indicate the annual export of your company: ……………………………

13. Indicate the departments attached to your company, the number of employees and their shares in your total activities:

Department Name	Number of Employees (Person)
Production	
Marketing	
Research and Development (R&D)	
Other	
Total	

14. Indicate the qualifications and number of employees in your company:

Engineer	Technician	Foreman	Worker	Administrative	Total

15. Indicate the education status of your employees:

Primary School	High School	Associate	Bachelor	Masters	Doctorate

II. INFORMATION REGARDING INOVATION

16. What does innovation mean for you (your company)? Please define what can be an innovation for your company.

17. Can you please indicate the numbers, names and dates of patents, utility models, industrial designs and trademarks you have made so far:

Innovations	Numbers	Name/Information	Date (year)
Patent			
Utility Model			
Industrial Design			
Trademark			

18. Can you write down the number, information and the date of innovations that your company has realised so far (excluding above):

Innovation	Numbers	Name/Information	Date (year)

Product			
Process			
Organization			
Marketing			

19. Could you tell us the contribution of your innovations to your company?

Contributions of Innovation	Mark Which is Important for You
Increased competitiveness	
Reduced costs	
Made us unrivalled in the Market	
Increased quality	
Other	

20. Please indicate your R&D expenditure in the specified years and until today::

Years	R&D Expenditure (TL)	Ratio in Total Budget (%)
2018		
2017		
2016		
Until Today (Total)		

III. THE REGULATORY DIMENSION OF INSTITUTIONS AND INNOVATIVE ENTREPRENEURSHIP

III.1. General Introduction:

In this section, the effect of the regulative dimension of institutions on the formation and development of regional innovative entrepreneurship is measured.

21. The rules, regulations, and laws that are in effect in Turkey have a significant influence on entrepreneurship. How do these factors that constitute the regulatory dimension of institutions affect the development of entrepreneurship (especially innovative) in this province?

22. Please list the top 5 challenges before starting an innovative venture in this province..

Top 5 Challenges for Starting an Innovative Enterprise in This City
1.
2.
3.
4.
5.

III.2. Understanding the Business and Investment Environment:

23. Below are some comments about the possible effects of the regulatory dimension of institutions on the formation and development of innovative initiatives. Could you rate the sentences given below from 1 to 5 according to their importance by considering the establishment and development stages of your company?

(1=Very Negative/strongly disagree, 2=Negative/disagree, 3=Neutral, 4=Positive/agree, 5=Very Positive/strongly agree)

	The effect of Regulatory dimension on business and investment settings	1	2	3	4	5
	Bureaucratic Procedures					
R1	In this province, there are too many rules and formal procedures to start an innovative activity.					
R2	In this province, there is a friend-dude relationship in the advancement of bureaucratic processes.					
R3	In this province, entrepreneurs cannot adapt to bureaucratic processes.					
	Financial Resource	1	2	3	4	5
R4	In this province, entrepreneurs have enough equity to start innovation activities.					
R5	In this province, the number and type of additional financial resources (angel investor, venture capital) are sufficient to support the development of innovation activities.					
R6	In this province, access to bank loans is easy.					
	Supports and Incentives	1	2	3	4	5
R7	In this province, the incentive system implemented supports the development of innovative entrepreneurship					
R8	In this province, there is sufficient public support for the development of innovative entrepreneurship.					
R9	In this province, starting an innovative activity is more profitable in terms of worker costs (social security premiums).					
R10	In this province, carrying out innovation activities provides an advantage in terms of taxes.					

R11	In this province, entrepreneurs have sufficient information about available incentives and supports.					
R12	In this province, entrepreneurs have the habit and culture of using incentives and government subsidies.					
	Role of central and Local Organizations	**1**	**2**	**3**	**4**	**5**
R13	In this province, the central or local government bodies operating are informing the entrepreneurs enough about the supports they can benefit from.					
R14	In this province, the central government bodies operating contribute to the development of innovative entrepreneurship.					
R15	In this province, the central government bodies operating are trying to turn this province into an attraction center for investments.					
R16	In this province, the local government provides the necessary contribution to the development of innovative entrepreneurship					
R17	In this province, the local government is open enough to new investments and ideas.					
R18	In this province, the local government is rapidly granting licenses and permits, such as building permits, business opening and working licenses, which are necessary for the launch of an innovative initiative.					
R19	In this province, the local government does not discriminate between entrepreneurs.					
R20	In this province, there is a strong coordination and cooperation between the institutions.					
R21	In this province, public decisions that will affect investments (innovation activities) are made in a transparent and participatory way.					
R22	In this province, all companies operating have equal chances in participating in public tenders.					
R23	In this province, there is enough struggle against the informal economy.					
R24	In this province, necessary measures are taken to prevent unfair competition.					
R25	In this province, vocational/professional chambers make a sufficient contribution to the development of innovation activities.					

III.3. Understanding Financial Support Mechanisms

24. Which of the following financial resources did you use during the establishment of your company, innovation and R&D activities, and enlarging your company? Please indicate the support you have made use of.

Institution/Amount	During the Establishment	During the Innovation and R&D.	During Enlarging.
PUBLIC INSTITUTIONS			
PRIVATE SECTOR INSTITUTIONS			
NGOs			
NATURE PERSON			

III.4. Research and Development and Innovation Support Mechanisms

25. The organizations and relationships which may have an effect on your company's innovation capacity are listed below. Can you rate on a 1-5 scale the effect of these institutions and relationships by thinking through the context of innovation? (*1=Very Negative/strongly disagree, 2=Negative/disagree, 3=Neutral, 4=Positive/agree, 5=Very Positive/strongly agree*)

	The effect of regional relationships/organisations on your company's innovativeness	**1**	**2**	**3**	**4**	**5**
R26	The university (s) in the province made important contributions to our company's innovation activities.					
R27	The public-university-industry relationship (KÜSİ) in the province has contributed positively to the innovation of our company.					
R28	The Technology Development Zone in the province have had an important role on the innovation of our company.					
R29	The Business Incubators (İŞGEM) in the city have had an important role on the innovation of our company.					
R30	The Research and Development Centers in the city have had a key role on the innovation of our company.					
R31	The Chamber of Commerce and Industry in the city have had a positive contribution on the innovation of our company.					
R32	The Provincial Science, Industry and Technology Directorate has provided supportive contributions to the innovation of our company.					
R33	The Developmental Agency in the province has supported the innovation of our company					

III.5.Supports and Incentives:

26. Could you please indicate the type and year of incentive you have benefited from since the establishment of your company? (General Incentive, Regional Incentive, Large Scale Investment Incentive, Strategic Investments…)

Incentive: **Incentive Type:** **Incentive Period:**

IV. THE NORMATIVE DIMENSION OF INSTITUTIONS AND INNOVATIVE ENTREPRENEURSHIP

In this section, we will investigate how the culture, traditions, customs, values, beliefs and expectations that the province has, affect innovative entrepreneurship in this province.

27. How do you think the culture, traditions, customs, values, beliefs and expectations that the province has, affect the level of innovative entrepreneurship in this city? Is it positive or negative? Why?

28. Below are some suggestions to understand the social structure of the city where you operate and its relationship with innovative entrepreneurship. Please rate the sentences given from 1 to 5, considering the society you live in and your experiences.
   (*1=Very Negative/strongly disagree, 2=Negative/disagree, 3=Neutral, 4=Positive/agree, 5=Very Positive/strongly agree*)

	The Social Structure in the region and its relationship with innovative entrepreneurship	1	2	3	4	5
N1	In this province, cultural values and beliefs such as traditions and customs support individuals to be innovative.					
N2	In this province, the production and working culture has been sufficiently developed.					
N3	In this province, there is a strong trade culture and tradition.					
N4	In this province, envy and jealousy among individuals prevent the development of innovation activities.					
N5	In this province, the selfishness of individuals prevents the development of innovation activities.					
N6	In this province, the existence of social pressure prevents the formation of innovation activities.					
N7	In this province, the ultra-traditional social structure hinders the development of innovative activities.					
N8	In this province, the closed/conservative social structure prevents the development of innovative activities.					
N9	In this province, the high saving culture prevents the development of innovative activities.					
N10	In this province, the individuals' fear of failure and loss hinders the development of innovative activities.					
N11	In this province, society is open to innovations, change and new ideas.					
N12	In this province, society does not exclude foreigners, it embraces them.					
N13	In this province, society values diversity and multiculturalism.					
	Demographic Structure	1	2	3	4	5
N14	In this province, the existing education level is enough for the development of innovative entrepreneurship					
N15	In this province, the brain drain experienced prevents the development of innovative entrepreneurship.					
N16	In this province, the rurality and rural culture prevent the development of innovative entrepreneurship.					
N17	In this province, the weak urban culture and manner hinders the development of innovative entrepreneurship.					
N18	In this province, the wealth of the society prevents the development of innovative entrepreneurship.					
N19	In this province, income from agriculture and animal husbandry or other sectors prevents the development of innovative entrepreneurship.					

29. Below is the regional/political location of the city where you operate. Please rate the statements given from 1 to 5, considering the society you live in and your experiences. (*1=Very Negative/strongly disagree, 2=Negative/disagree, 3=Neutral, 4=Positive/agree, 5=Very Positive/strongly agree*)

	The Political Position of City					
N20	This province is a safe place for entrepreneurs to invest and do business.					
N21	The existing political structure of the city contributes to the development of innovative entrepreneurship					
N22	in this province, political conflicts (if any) prevent the formation of innovative entrepreneurship.					
N23	Political figures from this province have contributed to the development of innovative entrepreneurship.					
	The Regional Location of City					

N24	The geographical location of this province supports the development of innovative entrepreneurship.					
N25	The historical background of this province supports the development of innovative entrepreneurship.					
N26	Investing in this province provides important advantages in terms of costs.					
N27	This city's being far away from raw material and market prevents the development of innovative entrepreneurship.					
N28	In this province, high transportation costs are not a factor preventing the development of innovative entrepreneurship.					
N29	The underground and ground sources that this city has positively affect the development of innovative entrepreneurship.					
N30	The favourable climatic conditions of this province positively affect the development of innovative entrepreneurship.					

V.   MEASURING THE EFFECTS OF CULTURE-COGNITIVE DIMENSION OF INSTITUTIONS ON REGIONAL INNOVATIVE ENTREPRENEURSHIP

In this section, it is tried to measure the effects of individual knowledge, skills, attitudes and behaviours in a society on the formation and development of innovative entrepreneurship.

30. Below are some statements regarding the culture-cognitive dimension of institutions which may affect the formation and development of innovative entrepreneurship. lease rate the sentences given from 1 to 5, considering the society you live in and your experiences.

(*1=Very Negative/strongly disagree, 2=Negative/disagree, 3=Neutral, 4=Positive/agree, 5=Very Positive/strongly agree*)

	The effect of Institutionalization on the innovation of companies	1	2	3	4	5
	Institutionalization and Innovation Capacity of Companies					
C1	In this province, most firms are family businesses.					
C2	In this province, the institutionalization culture is weak in most companies.					
C3	In this province, most of the companies produce based on traditional methods.					
C4	In this province, the technological level and capacity of firms is low.					
C5	In this province, the R&D and Innovation capacity of companies is low.					
C6	In this province, the fact that companies are sub-industries have prevented them from being innovative.					
	Networks, Trust and Cooperation among Companies	1	2	3	4	5
C7	In this province, the share of knowledge among the entrepreneurs is common.					
C8	In this province, the level of trust among entrepreneurs / companies is high.					
C9	In this province, the tendency to cooperate among entrepreneurs is high.					
C10	In this province, entrepreneurs have strong local, national and international networks.					
C11	In this province, a culture of solidarity has developed among entrepreneurs.					
	Entrepreneurship Culture and Perceptions (Risk-taking, Uncertainty Avoidance, Entrepreneurship knowledge, skills and experience, and Role Models)	1	2	3	4	5
C12	In this province, entrepreneurship culture has developed sufficiently.					
C13	In this province, individuals do not hesitate to take risks when starting a business.					
C14	In this province, individuals do not abstain from deciding in uncertainty.					
C15	In this province, individuals always rely on themselves when making a business decision.					
C16	In this province, individuals prefer to make decisions independently / alone rather than sticking to the family.					
C17	In this province, most people have the knowledge, skills and experience about that job before starting a new job.					
C18	In this province, most people know entrepreneurs doing business in that industry before starting a new job.					
C19	In this province, the fact that there are many entrepreneurs in the family plays an effective role in people being entrepreneurs.					
C20	In this province, sufficient and good quality training/education is given about innovative entrepreneurship at universities and other educational facilities.					
C21	In this province, a significant number of contests and social events are organized to encourage innovative entrepreneurship.					
C22	In this province, entrepreneurs are seen as role models and respected.					
C23	In this province, entrepreneurship is seen as an inspiration.					
C24	In this province, entrepreneurship has reached sufficient visibility and awareness in the media and other broadcast organs.					

CURRICULUM VITAE