DETERMINANTS OF ENTREPRENEURSHIP INITIATIVES FROM ENTREPRENEURSHIP ECOSYSTEM PERSPECTIVES IN SELECTED CITIES OF GURAGE ZONE

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF WOLKITE UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS OF BUSINESS ADMINISTRATION

BY

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DECLARATION

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This is to certify that the thesis entitled ***"Determinants of Entrepreneurship Initiatives from Entrepreneurship Ecosystem Perspectives in Selected Cities of Gurage Zone"*** submitted in partial fulfilment of the requirements for the degree of Master's in Business Administration, the Graduate Program of the Department of Management**,** and has been carried out by **Tano Geter** Id. No **BEGE/016/12**, under my supervision. Therefore I recommend that the student has fulfilled the requirements and hence hereby can submit the thesis to the department.

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As members of the Board of Examiners of the final Master's degree open defence, we certify that we have read and evaluated the thesis prepared by **Tano Geter** under the title ***"Determinants of Entrepreneurship Initiatives from Entrepreneurship Ecosystem Perspectives in Selected Cities of Gurage Zone"*** and recommend that it be accepted as fulfilling the thesis requirement for the degree of **Master of Arts in Business Administration.**

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Name of External Examiner	Signature	Date

Thesis approved by:

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DGC/SGC	Signature	Date

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ABSTRACT

The research investigated the systemic interaction of entrepreneurial ecosystem and its role on individual entrepreneurial initiative. To come up with the result mixed research design and global entrepreneurship index calculation method was used. A total of 392 respondents were drawn from the adult group of the study area population. The questionnaires were adopted from internationally standardized sources. Correlation and binary logistic analysis were utilized. Besides the GEI method was used to calculate the entrepreneurial ecosystem of the study area. The result showed that individual as well as environmental factors play significant role in shaping entrepreneurial initiatives of individuals. Individual variables including opportunity perception, knowing entrepreneurs, career choice, attaching high status, opportunity motivation and job created and job expected and institutional variables like property right, education right, infrastructure, corruption, good governance, staff training, regulation and availability of venture capital variables of entrepreneurship ecosystem are significantly associated with entrepreneurship initiatives. Furthermore, the interplay among different individual factors and between the environmental factors influences the performance of the whole system and individual entrepreneurial initiatives. Finally, it is important to investigate the topic at hand in expert team based approach and develop national level entrepreneurial ecosystem assessment framework.

Keywords: *Entrepreneurship Ecosystem, Initiatives, Environmental Factors, Penalty Pillar, Attitude, Ability and Aspiration*

CHAPTER ONE

1. BACKGROUND OF THE STUDY

1.1. Introduction

Entrepreneurship creates job and new business to enhance national economic growth. Currently entrepreneurship is one of production factors including land, manpower, and capital. The last three can be easily seen, measured, and acknowledge. Entrepreneurship, however, is not something easily identifiable, measurable, and predictable (Bezabih, 2005).

Scholars defined entrepreneurship in a different way. Such variation is a result of their academic background (Bezabih 2005 and Verheul, et al. 2001). Notwithstanding these differences, most scholars agree that entrepreneurship is a process of creating new values.

Entrepreneur is a person who creates new business no matter how modest that is relevant to the national level activity (Szerb, et al., 2018). Global entrepreneurship monitor (GEM) defined entrepreneurs as people who are entrepreneurially active as an adult in the process of setting up a business they (partly) own and or currently owning and managing a young business (Bosma, D. Reynolds, Lopez - Garcia, & Autio, 2005).

Entrepreneurship is about encouraging the formation of high quality, high growth companies. Some demurred the traditional understanding of entrepreneurship as a start-up and creation. The typical start-up is not innovative, creates few jobs, and generates little wealth. They argued that economic growth and job creation is not a number game (Shane, 2009). Entrepreneurship is a process of wealth creation. This definition explains entrepreneurship based on its result as well as the means to get the result. Accordingly, the author defined entrepreneurship as adding value to society through the process of incubating ideas, assembling resources, and making things happen (W.Y.Kao, 1993). Others defined entrepreneurship as taking responsibility for making decision that affects the location, the form, and the use of goods, resources, or institutions. It is the behaviour of risk-taker, creative venture, entering into a new business or one who revives on existing business with the purpose of economic growth (F Hebert & Link, 1989).

Entrepreneurship is context-specific. The level and nature of entrepreneurship differ depending on the given culture, economic development, and technological advancement of the respective countries (Osman & Murat, 2011). Also, it is affected by factors ranging from individual to global issues (Stam & van de Ven, 2019).

Despite different definitions, entrepreneurship usually shares common features. For example, entrepreneurial activity serves as an avenue to stimulating economic growth and empowering marginalized segments of the population (Osman & Murat, 2011). It creates job, broadens tax bases, diversifies risk, and innovates and adopts new technology (Brixiova, 2013).

1.2. Statement of the Problem

Despite the significance of entrepreneurship, academic effort on the field is lacking. The literatures in the field lack empirical analysis and theoretical understanding (Brixiova, 2013). There is also no consensus on measurement/indicators of the concept of entrepreneurship and factors that affect entrepreneurship. As a result, the understanding of policies to develop the potentials of entrepreneurship remains immeasurable.

Different measurement and index were developed to explain entrepreneurship. As GEM, TEA, OECED, Eurostat's entrepreneurship index, and the like defined entrepreneurship as self-employment entries within the population (new entries). According to the Kauffman Index of Entrepreneurial Activity (KIEA), entrepreneurship is measured by the adult non-business owner population who starts a new business. Both approaches of measurements more or less focus on self-job creation and new business formation. On the other side, the Euro barometer, World Value Survey, GEM, and international social survey (ISSP) measures entrepreneurship in terms of population-level attitude. In one way or another, these measurements don't consider quality aspects and environmental factors of entrepreneurship (Bosma, D. Reynolds, Lopez - Garcia, & Autio, 2005).

Regardless of the discrepancies in definition and measurement of entrepreneurship, individual entrepreneurs are a basis for a nation's development endeavours. If so, what shapes the individuals' intention on entrepreneurial activities is still debatable. Many researches are done on psychological traits as a single predicator of individual behaviour toward entrepreneurship. Untangling the way context shapes individuals intention, however, remains a challenge and it becomes even more difficult when the multi layered and nested nature of socioeconomic environment is recognized. According to Pita (2021), no prior research attempt to explore the connection between entrepreneurial ecosystems and entrepreneurial initiatives through multi-dimensional and quantitative perspectives. Thus, attention has to be paid to the interplay between individual and contextual factors.

When we came to Ethiopia, small and medium enterprises and entrepreneurship have received little scholarly attention. Most researches done on entrepreneurship show that entrepreneurship is all about new firm/business formation and self-employment and factors that influence entrepreneurship are associated only with the social, economic, and political environment. Individual factors as well as the interplay with the environment are not well addressed. Other like Rebekha stated that no qualitative research done on the perception of entrepreneurs in developing nations concerning the conduciveness of the local environment for conducting business. She also argued that earlier research focused on large and existing industries/firms ignoring small and medium-sized enterprises (SMEs) (Rebekah , 2016). Determinants of entrepreneurship are also studied in Ethiopia using GEM approach (Amha, Woldehanna, Tamrat, & Gebremedhin, 2015). However, their research lacks considering environmental factors since it used only adult population survey.

Different from the previous research this research studied status of entrepreneurship ecosystem and determinants of entrepreneurial initiatives from entrepreneurship ecosystem perspective. For that end, I used GEI approach that focuses on both individual and environmental/institutional factors to assess the entrepreneurial ecosystem in selected cities of Gurage Zone.

Unlike others, Global Entrepreneurship Index (GEI) centres on individual and institutional variable components of entrepreneurship. It enables for analysing the quality of the entrepreneurship ecosystem and for making policy implications regarding different pillars of entrepreneurship measurement (Szerb, et al., 2018). It helps analyse the entrepreneurial profile of a given country or region from system perspectives. It considers individual factors, environmental factors, and the interplay between both factors to assess the quality of a given ecosystem.

1.3. Research Questions

1.3.1. General Research question

What are the determinants of entrepreneurial initiatives of individual in entrepreneurship ecosystem in Gurage Zone?

1.3.2. Specific Research Questions

- What is the state of entrepreneurship ecosystem in Gurage Zone?
- What is the effect of each pillars of entrepreneurship ecosystem on entrepreneurial initiatives of individuals in Gurage Zone?

1.4. Research Objectives

1.4.1. General objective

To analyse the factors that determine entrepreneurial initiatives of individual from entrepreneurship ecosystem of Gurage Zone

1.4.2. Specific objectives

- To assess entrepreneurship ecosystem in Gurage Zone
- To investigate effect of each pillars of entrepreneurship ecosystem on entrepreneurial initiatives of individuals in Gurage Zone.

1.5. Significance of the Study

Based on my observation, I couldn't find researches done on entrepreneurship from system perspectives. Thus this study is expected to pave way for others to research the system perspective in the future. On the other hand, the study will serve as an input for the government and development institutions to enhance encouraging entrepreneurship ecosystem.

1.6. Scope of the Study

The research aimed at investigating the factors that determine entrepreneurial initiatives of individual from entrepreneurship ecosystem perspective in Gurage zone. However, the approach used is Global Entrepreneurship Index (GEI) that does not use other international entrepreneurship indexing sources. Furthermore, the study is limited to eight selected cities of Gurage Zone. The main reason for focus on selected cities is that most of the required infrastructure and other institutional determinants are found only in the town centres.

1.7. Limitation of the Study

Three important challenges are identified in the course of the study. The first one is related to getting secondary data for institutional variables. For example there is no local level calculated scores for economic complex, depths of economy, total time and cost to process trade license and expenditure for research development. As a result national level scores were used. Of course the pillar scores under these categories are lowest among other pillars. The second limitation is related to the above limitation. Most of the time, GEI is not recommended for local level entrepreneurial ecosystem assessment. But here in this research is applied for the local level assessment with a certain limitation. To fill this gap, I put the possible recommendation in the recommendation part. The third limitation is related to lack of financial resources and time to collect and complete the research with in the given time period.

1.8. Organization of the Study

The research paper is organized into five chapters. The first chapter presents the background of the study including introduction, statement of the problem. Chapter discuss related literature comprising conceptual and theoretical background of entrepreneurship and entrepreneurship ecosystem. Chapter three describes methods and material adopted to conduct the research. Chapter three presents the data and discussion part of the paper. The last chapter presents the summery, recommendation and conclusion of the paper.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Definition of Entrepreneurship

Entrepreneurship is an engine for a country's sustainable development. In turn, development depends on competitiveness of firms in the country. Consecutively a firm's ability of utilizing its competitive advantage depends on capabilities of its entrepreneurs. As a result entrepreneurship is taken as one of human power (Álvaro , Domingo , & Salvador , 2007).

There is no universal agreement on the definition of entrepreneurship/entrepreneur. Etymologically, the term originated from a French word entreprude meaning "to begin something, undertake". The term was used to describe an active working person. The term entrepreneur also refers a person specialist in taking risk.

Conceptually, there is no universally agreed definition. Scholars defined entrepreneurship differently. Multidimensional nature and involvement of many variables of entrepreneurship contributed for varied definition of the term. Besides, dramatically changing business world, market and technology demanded for re-thinking the concept of entrepreneurship (Anders & Lois , 2005) and (Mehmet, 2012).

Commonly, entrepreneurship is the activity of hunting innovation, starting new business, persistently continuing in the attitude to jump-start innovation (Mehmet, 2012). According to Anders & Lois, entrepreneurship is starting a business or organization with the purpose of profit or non-profit. They underscored on estimating risks and appropriate management of risks as a basic feature of entrepreneurship. They also augmented social benefit as important aspects of entrepreneurship beyond monetary profit making (Anders & Lois , 2005)

Schumpeter defined entrepreneurship as activity of new combination and commercial application with pursuit of profit. In view of that, an entrepreneur is the one who breaks the existing combination and recombine its part in a new and profitable manner. Different from others, Schumpeter came up with the issue of innovation and invention, risk averting as a characteristic of entrepreneur and creating new in different forms. By invention and innovation he discussed that invention by itself is not a characteristic of entrepreneur. He claimed that one can create new combination; however, if it is not commercialized it

cannot be deliberate as entrepreneurship. The invention to be entrepreneurial activity; it should have a potential of being commercialized and profitability. Henceforth only commercialized invention is considered as entrepreneurship (Joseph, 1983).

Schumpeter also questioned “what is new?” Accordingly “new” is not always a product or service. Furthermore it can be the introduction of a new method of production, opening of new market, the conquest of new sources of supply or raw material or half manufactured goods (Joseph, 1983) and (Russell & Jason , 2020). He also questioned business ideas that are not carried out as a product or services. One may have neat and valuable business ideas. However, idea is cheap and nothing unless otherwise converted to production and commercialized (Russell & Jason , 2020), (Russell & Jason , 2020) and (Sachin , 2021).

Greatest scholars and practitioners associate entrepreneurship with risk taking. However, Schumpeter argued that entrepreneur doesn’t tolerate risk. He claims that an entrepreneur may cost financial cost but need not because of being entrepreneur. It is a result of being capitalist or possessor of goods. In other words, entrepreneurs begin from zero and well calculative of cost and benefit and they do not play a game that they are not quite sure to win (Russell & Jason , 2020).

Schumpeter as well differentiated entrepreneur from business owner. Thus, once an entrepreneur has established a new combination and own business, it is not a guarantee for being a lifelong entrepreneur. When he/she lay off continuous recombination and merely owing and running a business, he/she is a business person but not entrepreneur (Russell & Jason , 2020). Furthermore he supplements that entrepreneurship as a process of creating something new with new value. He maintains that a product or service may or may not be new or unique but values can be added.

The other important point raised by nearly all scholars is that entrepreneurship is discovering opportunities and utilizing them properly. Entrepreneur is well smart in discovering opportunities. They don not waste a good crisis (Friederike , 2010). The entrepreneurial opportunity is an expected and unvalued economic opportunities. The opportunities are available because different agents have differing ideas on the relative value and resources when resources are turned from inputs into outputs. The extent of opportunities depend on the heterogeneity of believes about values of resources.

2.2. Theories of Entrepreneurship

The major theories that explained nature and basis for entrepreneurship are psychological theories, sociological theories and economic theories. There is also recently developed theory that argues entrepreneurship as a result of the intertwined effect of psychological, sociological and economic factors. This theory confers that entrepreneurship as complex issue that cannot be associated with a single factor (Howard & Donald, 2010).

2.2.1. Psychological Theory

Psychological theory analysed entrepreneurship based on individual traits. Accordingly it argued that entrepreneurship is a result of individual attributes. Entrepreneurship is a particular psychological attribute which reinforces to create new venture. As Schumpeter argued individuals are motivated and driven by the desire for power and independence. He put the human agent at the centre of the process of economic development and entrepreneurship. Nonetheless, for him money is not the exclusive motivator (Sachin , 2021).

The other scholar on the area, McClelland argued that the desire for achievement is the driving force for entrepreneurship. Achievement as a motivation leads individuals to develop entrepreneurial behaviour. Thus individuals with high achievement motive tend to take knee interest in situations of high risk, desire for responsibility and desire for a concert measure of performance. Overall this theory argued that entrepreneurship is most likely to emerge where society has sufficient supply of individuals possessing particular psychological characteristics (Álvaro , Domingo , & Salvador , 2007) and (Andre & Sepideh , 2019).

2.2.2. Sociological Theories

Sociological theory emphasized on the social environment where entrepreneurial activities take place. It retained that entrepreneurship most likely emerges under a specific social culture. Likewise entrepreneurs are goal oriented and have the capacity to adapt to the changing environment. However, the existing custom, value system, social authorization, the rigidity of status, difficulty of new idea and exercise of intellectual curiosity determine the emergence and expansion of entrepreneurship. A social system which drives opportunities for creative facilities sustenance entrepreneurship (Friederike , 2010)

Max Weber's social change theory explained that growth of entrepreneurship depends up on the ethical value system of a society. Consequently, religious believes generate a drive

of entrepreneurial growth. Moreover the theory upholds that the society that accent on capitalism and money rationality have succeeded to give birth to entrepreneur (Andre & Sepideh , 2019).

Thomas Cochran's cultural value theory described societal attributes and role expectations as the driving force behind entrepreneurship. Conversely, these social attributes and role expectations are shaped by a particular society. Thus, entrepreneurs' performance depends up on his own attitude toward his occupation, the role expectation of social groups and occupational requirement of the job. Hence entrepreneur represents society's model personality (Sachin , 2021).

Cultural theory of B.F.Hoselize associated a dominant culture and cultural marginalization groups and entrepreneurship. According to the theory, the marginalized groups have two advantages to be entrepreneur. One, since they are marginalized from the main stream, they search for a mechanism for survival and adaptation. In such process they are more likely to invent a new and genuine invention. On the other hand in a society in which the value of dominant culture doesn't encourage entrepreneurial activities, the one who is not part of the dominant culture has opportunity advantage to the entrepreneurship vacuum left by the dominant group (Anders & Lois , 2005).

Hagen's theory of entrepreneurship which is known as withdrawal theory basically points out that a social group which was high-status in the past but lost the status now strives to regain the previous position. Thus, according to the theory, the process paves way for rise of entrepreneurship.

2.2.3. Economic Theory of Entrepreneurship

This theory defined entrepreneur as the one who combines resources like labour, material and other assets, introduce change, innovations and new order for profitable and rewarding ends. Likewise entrepreneurship emerges in the situation where there is a favourable particular economic condition like a well-developed market, efficient economic policies and regulations. According to the theory the driving force for the entrepreneurship is economic incentives (Friederike , 2010). For example, profit theory of Knight identified the entrepreneur as recipients of profit. He argued that no entrepreneur will take a risk unless there is a hope for getting profit.

On the other hand, price adjustment theory presented that the main role of entrepreneur is price adjustment. After an individual identified the market for product or service is out of equilibrium, he may purchase or produce at the prevailing price and sell to those who are preparing to buy at the higher price" (Kristian , 2019)

2.2.4. Integrated Theory

This theory argued that entrepreneurship is a result of multiple and differently integrated factors. A set of factors pave way to the emergence and development of entrepreneurship. It challenged associating a single factor for entrepreneurship; rather entrepreneurship is a function of psychological, social, economic, legal, political, cultural, technological and natural environmental factors (Sachin , 2021).

The theory led to ecosystem approach for entrepreneurship. As stated earlier, the main objective of this research is to analyse factors that determine entrepreneurship ecosystem in Ethiopia. By the term ecosystem, entrepreneurship encompasses multi-dimensional factors ranging from individual to macro and political factors.

2.3. Related Literature

Entrepreneurship has been a subject for research and academic debate for a long period of time. From the time of Schumpeter to now, different scholars and practitioners have forwarded their argument and conducted research on the area. As it is researched and is area of academic debate, however there is no universally agreed definition of entrepreneurship. Among the reason for complexity regarding definition of the subject is its multi-dimensionality. Entrepreneurship involves personal/psychological, cultural, social, legal, political, technological and natural environment issues (Mehmet, 2012).

Nevertheless, there is agreement on some components of entrepreneurship like personal trait as a basic drive for entrepreneurship. Most researchers on entrepreneurship focused on personal traits as driving force. Multi-dimensional effects of factors on performance of entrepreneurship remain an area not covered in literature (Charles , 2018) and (Jayshree & R., 2012). The authors also argued that most entrepreneurial ecosystem studies are qualitative case studies lacking in quantitative research.

There is a tendency of underestimating the influence of external factors and overestimating internal personal factors (Charles , 2018). Gartner located entrepreneurship in the context of time and place dynamics since context is important for understanding when, how, and

why entrepreneurship happens and who become involved (Friederike , 2010). However, the research was done based on secondary literature and it lacks statistical analysis.

Xiangfei , Haijing , Chenghua, & Alex conducted a longitudinal empirical study on technology business incubator in China with the aim of identifying key components of entrepreneurial ecosystem in developing economy. Accordingly, the research analysed people, technology, capital and infrastructure aspects. However, the research limited to technology business incubator (Xiangfei , Haijing , Chenghua, & Alex).

Juliane & Julia investigated the influence of contextual factors on entrepreneurial process. They argued that existing research neglected the influence of contextual factors on the entrepreneurship process. Accordingly, they focused on political, legal, economic, technological, environmental, social and cultural factors. However, the method they employed is qualitative and lacks quantitative analysis (Juliane & Julia l, 2020).

Similarly, there are other researches done on influence of contextual factors on a certain industry and area of entrepreneurship process. As far as our knowledge, those researches done on the area lack either quantitative analysis supported with model or limited to a certain industry or locality (Xuefang, Xuemei , & Carla , 2019).

Thus this research is designed with the aim of investigating factors that affect the general entrepreneurship ecosystem ranging from micro level to macro level.

2.4. Entrepreneurship Ecosystems

Entrepreneurial ecosystem is the interaction of different hierarchically independent stakeholders co-specialized in certain area. The co-specialization may be venture capitalists, research institutions, different supporting institutions, new ventures, established businesses, and so on that offer complementary skills and services, and normally depend on others to accomplish their goals. Hierarchically independent implies that their interaction is not in the manner of formal order, rather it is random (Zoltán, László, & Erkko , 2016).

Entrepreneurial ecosystems are a pool of pillars that again grouped into systems that contribute for system performance at the ecosystem level. Accordingly, entrepreneurship is performed by individuals or institutions (that are referred as agent) driven by some kind of incentives. The second notion is that the agents' action is shaped by institutional framework. Third the ecosystem is multifaceted structure in which many elements co-

operate to produce systems' performance. Thus the elements are context specific where one size doesn't fit for all (Zoltán , László , Esteban, & Gábor , 2019).

There are different measurements of entrepreneurship ecosystem of a certain country or region (Kristian , 2019). One of them is global entrepreneurship Monitor (GEM). GEM measures density and quantity of entrepreneurship by counting the owner of small business. The other one is Total Early Stage entrepreneurial activity (TEA) that measures quantity aspect of entrepreneurship by taking primarily self-employment. Both focus on quantity aspects of entrepreneurship and lacks describing the qualitative aspects. While Global Entrepreneurship Index (GEI) measures the quality aspects of entrepreneurship- the opportunity driven entrepreneurs who generate commercial success. Accordingly, the definition of entrepreneurship is about high growth, stability and serious job creation. It is a new way of contextualizing the increasing complexity and interdependent social system being created. It is concerned with both the abundance and endowment of particular key factors of production or resources that shapes economic performance and the manner in which the economic activity is configured or organized, within geographic space (Szerb, et al., 2018).

Accordingly, considering the possibility of multi-dimensional nature of entrepreneurship and limitation regarding universally agreed definition of entrepreneurship, GEI defines entrepreneurship as "the dynamic institutionally embedded interaction between entrepreneurial attitudes, entrepreneurial abilities and entrepreneurial aspiration by individuals, which drives the allocation of resources through the creation and operation of new ventures." The 3As (attitude, ability, aspiration of individuals) are stand on 14 pillars, each of which contains individual and institutional variables (Zoltán , László , & Ainsley, The Global Entrepreneurship Index 2018, 2017).

2.4.1. Entrepreneurial Ecosystem Elements

2.4.1.1. Agents

The first component of entrepreneurial ecosystems is agency or entrepreneur that drives the system. The entrepreneur is someone who makes judgment-based decisions about the coordination of scarce resources. Here judgment based decision refers resolution based on individual wise insights unlike the formal decision through correct procedure. It is important to differentiate two types of entrepreneurial activity: at one end there is the usual entrepreneurship, at the other extreme there is high growth entrepreneurship. The routine

entrepreneurship implies the activities involved in coordinating and executing in a well-established on-going organization/enterprise with clearly defined way. This includes the self-employment and small business owner. High-impact entrepreneurship involves the activities compulsory to create new innovative high growth venture aimed at addressing the market gap that is left by well-established firms (Zoltán , László , & Ainsley, 2017).

2.4.1.2. Institutions

The second component of entrepreneurial ecosystems is institutions like economic institutions including property rights and the presence of effective market frameworks that rule the game of the market. They are very important since property rights reinforce individuals to invest in physical or human capital or adopt more efficient technologies. Economic institutions also moderate resource allocation to their most efficient uses; they determine who gets profits, revenues and residual rights of control (Zoltán , László , Esteban, & Gábor , 2019).

2.4.1.3. The System

The third component of entrepreneurial ecosystems is the systems. Here systems indicate interaction of innovations or clusters of innovations that work to produces outputs. Fundamentally, it is important to comprehend how ecosystem functions. How does an entrepreneurial ecosystem function? Ecosystem is a functional interaction of different parts including living and non-living. It is not enough to have a laundry list of the institutions that might be important: markets, human capital, supports culture, finance and policy. However, it is mandatory to understand their interaction too (Szerb, et al., 2018).

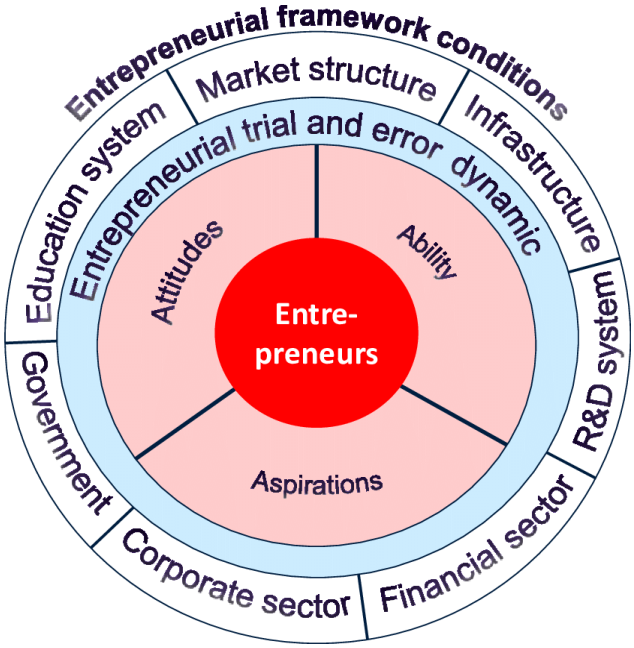
2.4.1.4. Ecosystem Services

The two important service of entrepreneurial ecosystems are resource allocation towards productive uses and the innovative, high-growth ventures that drive this process. Commonly entrepreneurship is associated with opportunity recognition and the need to assemble resources. However, from a performance perspective the key issue is about resource allocation from existing activities to new ones. The allocation of resources to productive uses will result in high growth, high value new firms. The nutrient in the ecosystem is resources - venture capital. Without nutrients the ecosystem will die (Zoltán , László , Esteban, & Gábor , 2019).

2.4.1.5. Ecosystem Management

Ecosystem is a function of myriad of localized interactions between stakeholders. Accordingly, it is not easy to trace gaps in system performance back to specific, well-defined market and structural failures that could be addressed in a top-down mode. Thus ecosystem management is required to administer and enhance ecosystem benefits. (Zoltán , László , & Ainsley, 2017).

Figure 2.1: The Entrepreneurial Ecosystem Configuration



Source: (Zoltán , László , Esteban, & Gábor , 2019)

2.4.2. The 3As of Entrepreneurship Ecosystem

According to GEI, entrepreneurship ecosystem is measured by three-component that include various characteristics of entrepreneurial attitudes, entrepreneurial abilities, and entrepreneurial aspirations that take into account the different aspects of the entrepreneurial ecosystem. However, all three components, called sub-indices, are in themselves complex measures.

Entrepreneurial attitudes measures a population's general mental state about recognizing opportunities, knowing entrepreneurs personally, endowing entrepreneurs with high status, accepting the risks associated with business start-ups, and having the skills to launch a business successfully. The references are those individuals who can recognize valuable business opportunities and have the skills to exploit them; who attach high status to

entrepreneurs; who can bear and handle start-up risks; who know other entrepreneurs personally (i.e., have a network or role models); and who can generate future entrepreneurial activities. Moreover, these people can provide the cultural support, financial resources, and networking potential to those who are already entrepreneurs or want to start a business.

Entrepreneurial attitudes are important because they express the general sentiment of the population toward entrepreneurs and entrepreneurship. Countries need people who can recognize valuable business opportunities, and who perceive that they have the required skills to exploit these opportunities. Moreover, if national attitudes toward entrepreneurship are positive, it will generate cultural support, financial support, and networking benefits for those who want to start businesses. *Entrepreneurial abilities* are define as start-ups in the medium- or high-technology sectors that are initiated by educated entrepreneurs, and launched. It refers the entrepreneurs' characteristics and those of their businesses. Different types of entrepreneurial abilities can be distinguished within the realm of new business efforts. Creating businesses may vary by industry sector, the legal form of organization, and demographics—age, education, etc.

Entrepreneurial aspiration reflects the quality aspects of start-ups and new businesses. Some people just dislike their currently employment situation and want to be their own boss, while others want to create the next. Entrepreneurial aspiration is defined as the early-stage entrepreneur's effort to introduce new products and/or services, develop new production processes, penetrate foreign markets, substantially increase their company's staff, and finance their business with formal and/or informal venture capital. Product and process innovation, internationalization, and high growth are considered the key characteristics of entrepreneurship. Here a finance variable is added to capture the informal and formal venture capital potential that is vital for innovative start-ups and high-growth firms.

Each of these three building blocks of entrepreneurship influences the other two. For example, entrepreneurial attitudes influence entrepreneurial abilities and entrepreneurial aspirations, while entrepreneurial aspirations and abilities also influence entrepreneurial attitudes.

2.4.3. The Fourteen Pillars of the Global Entrepreneurial Index

2.4.3.1. Entrepreneurial Attitudes Pillars

Pillar 1: *Opportunity Perception*. This pillar measures the individual ability to perceive entrepreneurial opportunities and the conduciveness of the environment to exploit the perceived opportunities. In other word the pillar measures the individuals' ability to perceive the opportunity and the state of property right and the burden of regulations to utilize the opportunities.

Pillar 2: *Start-up Skills*. Skill Perception measures the percentage of the population who believe they have adequate start-up skills (Zoltán , László , & Ainsley, 2017). Pillar 3: *Risk Acceptance*. Individual perception and reaction of risk is pivotal for start-up. Those who are risk averter fear to start new business. Accordingly, risk perception measures the percentage of the population who do not believe that fear of failure would prevent them from starting a business.

Pillar 4: *Networking*. Networking combines an entrepreneur's personal knowledge with their ability to connect to others in a country and the whole world. This combination serves as a proxy for networking, which is also an important ingredient of successful venture creation and entrepreneurship. Entrepreneurs who have better networks are more successful, can identify more viable opportunities, and can access more and better resources. The basic networking potential of a possible entrepreneur is the percentage of the population who personally know an entrepreneur who started a business within two years (Know Entrepreneurs). The connectivity variable has two components: One that measures the urbanization (Urbanization) of the country and the other measuring the quality of the transport infrastructure (Infrastructure).

Pillar 5: *Cultural Support*. This pillar is a combined measure of how a country's inhabitants view entrepreneurs in terms of status and career choice, and how the level of corruption in that country affects this view. Without strong cultural support, the best and brightest do not want to be responsible entrepreneurs, and they decide to enter a traditional profession. Career Status is the average percentage of the population age 18-64 who say that entrepreneurship is a good career choice and enjoys high status. The associated institutional variable measures the level of corruption. High levels of corruption can undermine the high status and steady career paths of legitimate entrepreneurs.

2.4.3.2. Entrepreneurial Abilities Pillars

Pillar 6: *Opportunity Start-up.* This measures business starters who are motivated by opportunity but face red tape and tax payment. An entrepreneur's motivation for starting a business is an important signal of quality. Opportunity entrepreneurs are believed to be better prepared, to have superior skills, and to earn more than what we call necessity entrepreneurs. Opportunity motivation is defined as the percentage of the Total Entrepreneurial Activity (TEA) businesses started to exploit a good opportunity, to increase income, or to fulfil personal aims, in contrast to those started by people who have no other options for work. On the other hand overall effectiveness of the government services is measured by the good governance variable and the cost of the governance is by the level of overall taxation (Taxation). The variable is a combination of these two components, government service quality and costs.

Pillar 7: *Technology Absorption*. In the modern knowledge economy, information and communication technologies (ICT) play a crucial role in economic development. Not all sectors provide the same chances for businesses to survive and or their potential for growth. The technology level variable is a measure of the businesses that are in technology sectors. The institutional variable, tech absorption, is a measure of a country's capacity for firm-level technology absorption, as reported by the world economic forum. The diffusion of new technology, and the capability to absorb it, is vital for innovative firms with high growth potential.

Pillar 8: *Human Capital*. The prevalence of high-quality human capital is vitally important for ventures that are highly innovative and require an educated, experienced, and healthy workforce to continue to grow. An important feature of a venture with high growth potential is the entrepreneur's level of education. The educational level variable captures the quality of entrepreneurs; it is widely held that entrepreneurs with higher education degrees are more capable and willing to start and manage high-growth businesses. The labour market possibilities and the capability to easily hire quality employees also have an impact on business development, innovation, and growth potential. The institutional variable labour market has two components (labour freedom and staff training). Labour freedom measures the freedom of the labour from the regulatory perspective and staff training is a country's level of investment in business training and employee development. It can be expected that heavy investment in employees pays off and that training increases employee quality.

Pillar 9: *Competition*. Competition is a measure of a business's product or market uniqueness, combined with the market power of existing businesses and business groups and the effectiveness of anti-monopoly regulation. The variable competitor is defined as the percentage of TEA businesses that have only a few competitors offering the same product or service. However, market entry can be prevented or made more difficult if powerful business groups are dominating the market. The extent of market dominance by a few business groups is measured by the variable market dominance. The effectiveness of the regulatory bodies (regulation) could also influence the level of competition in a country. The competition institutional variable is the combination of regulation and market dominance.

2.4.3.3. Entrepreneurial Aspirations Pillars

Pillar 10: *Product Innovation*. New products play a crucial role in the economy of all countries. The variable new product is a measure of a country's potential to generate new products and to adopt or imitate existing products. In order to quantify the potential for new product innovation, an institutional variable related to technology and innovation transfer seems to be relevant. Technology transfer is a complex measure of whether a business environment allows the application of innovations for developing new products. Pillar 11: *Process Innovation*. Applying and/or creating new technology is another important feature of businesses with high-growth potential. New tech is defined as the percentage of businesses whose principal underlying technology is less than five years old. However, most entrepreneurial businesses do not just apply new technology, they create it. The problem is similar to the new product variable: whereas many businesses in developing countries may apply the latest technology, they tend to buy or copy it. An appropriate institutional variable applied here is complex measure combining research and development (R&D), the quality of scientific institutions in a country (scientific institutions) and the availability of scientists and engineers (availability of scientist). Gross Domestic Expenditure on Research and Development (GERD) is budget allocated for R&D percentage of GDP. While R&D alone does not guarantee successful growth, it is clear that, without systematic research activity, the development and the implementation of new technologies and therefore future growth will be inhibited. The science institutional variable combines together R&D potential with physical scientific infrastructure and science oriented human capital.

Pillar 12: *High Growth*. High Growth is a combined measure of the percentage of high-growth businesses that intend to employ at least 10 people and plan to grow more than 50 percent in five years (gazelle variable) with business strategy sophistication (business strategy variable) and venture capital financing possibility (venture capital). It might be argued that a shortcoming of the gazelle variable is that growth is not an actual but an expected rate. However, a measure of expected growth is in fact a more appropriate measure of aspiration than a measure of realized growth. Business strategy refers to "the ability of companies to pursue distinctive strategies, which involves differentiated positioning and innovative means of production and service delivery." High growth combines high growth potential with a sophisticated strategy and growth specific venture capital finance.

Pillar 13: *Internationalization*. Internationalization is believed to be a major determinant of growth. A widely applied proxy for internationalization is exporting. Exporting demands capabilities beyond those needed by businesses that produce only for domestic markets. However, the institutional dimension is also important; a country's openness to international entrepreneurs that is the potential for internationalization can be estimated by its degree of complexity. The complexity of an economy is related to the multiplicity of useful knowledge embedded in it. Because individuals are limited in what they know, the only way societies can expand their knowledge base is by facilitating the interaction of individuals in increasingly complex networks in order to make products. We can measure economic complexity by the mix of these products that countries are able to make. The internationalization pillar is designed to capture the degree to which a country's entrepreneurs are internationalized, as measured by the exporting potential of businesses, controlling for the extent to which the country is able to produce complex products.
Pillar 14: *Risk Capital*. The availability of risk finance, particularly equity rather than debt, is an essential precondition for fulfilling entrepreneurial aspirations that are beyond an individual entrepreneur's personal financial resources. Here two kinds of finance, the informal investment (informal investment) and the institutional depth of capital market (DCM) are combined. Informal investment is defined as the percentage of informal investors in the population age 18-64, multiplied by the average size of individuals' investment in other people's new businesses. While the rate of informal investment is high in factor-driven economies, the amount of informal investment is considerably larger in efficiency and innovation driven countries; combining them balances these two effects.

Our institutional variable here is DCM, one of the six sub-indices of the venture capital and private equity index. This variable is a complex measure of the size and liquidity of the stock market, level of IPO, M&A, and debt and credit market activity, which encompass seven aspects of a country's debt and capital market.

Table 2.1. The structure of the new Global Entrepreneurship Index (GEI)

	Sub-indexes Pillars Variables (ind./inst.)	Sub-indexes Pillars Variables (ind./inst.)	Sub-indexes Pillars Variables (ind./inst.)
GLOBAL ENTREPRENEURSHIP INDEX	ATTITUDES SUB-INDEX	OPPORTUNITY PERCEPTION	OPPORTUNITY RECOGNITION[1]
			FREEDOM (ECONOMIC FREEDOM *PROPERTY[2] RIGHTS)
		STARTUP SKILLS	SKILL PERCEPTION
			EDUCATION (TERTIARY EDUCATION*QUALITY OF EDUCATION)
		RISK ACCEPTANCE	RISK PERCEPTION
			COUNTRY RISK
		NETWORKING	NETWORKING
			KNOW ENTREPRENEURS
		CULTURAL SUPPORT	CAREER STATUS
			CORRUPTION
	ABILITIES SUBINDEX	OPPORTUNITY STARTUP	OPPORTUNITY MOTIVATION
			GOVERNANCE (TAXATION*GOOD GOVERNANCE)
		TECHNOLOGY ABSORPTION	TECHNOLOGY LEVEL
			TECHNOLOGY ABSORPTION
		HUMAN CAPITAL	EDUCATIONAL LEVEL
			LABOR MARKET (STAFF TRAINING*LABOUR FREEDOM)
		COMPETITION COMPETITORS	COMPETITORS
			COMPETETIVNESS (MARKET DOMINANCE*REGULATION)
	ASPIRATION SUB-INDEX	PRODUCT INNOVATION	NEW PRODUCT
			TECH TRANSFER
		PROCESS INNOVATION	NEW TECHLOLOGY
			SCIENCE (GERD*((AVERAGEQUALITY OF SCIENTIFICAL INSTITUTIONS +AVAILABILITY OF SCIENTISTS AND ENGENEERS))
		HIGH GROWTH	GAZELLE
			FINANCE AND STRATEGY (VENTURE CAPITAL*BUSINESS
		INTERNATIONALIZATION	EXPORT
			ECONOMIC COMPLEXITY
		RISK CAPITAL	INFORMAL INVESTMENT
			DEPTH OF CAPITAL MARKET

Source: (Zoltán , László , Esteban, & Gábor , 2019)

[1] Individual variables are coloured with white background while institutional ones with light blue background (Zoltán , László , Esteban, & Gábor , 2019).

[2] The star represents multiplication

Table 2.2. The Description of The GEI Index Pillars

Pillar Name	Description
Opportunity Perception	Opportunity Perception refers to the entrepreneurial opportunity perception potential of the population and weights this against the freedom of the country and property rights
Start-up Skills	Start-up Skill captures the perception of start-up skills in the population and weights this aspect with the quality of education
Risk Acceptance	Risk Acceptance captures the inhibiting effect of fear of failure of the population on entrepreneurial action combined with a measure of the country's risk.
Networking	This pillar combines two aspects of Networking: (1) a proxy of the ability of potential and active entrepreneurs to access and mobilize opportunities and resources and (2) the ease of access to reach each other.
Cultural Support	The Cultural Support pillar combines how positively a given country's inhabitants view entrepreneurs in terms of status and career choice and how the level of corruption in that country affects this view.
Opportunity Start-up	The Opportunity Start-up pillar captures the prevalence of individuals who pursue potentially better quality opportunity-driven start-ups (as opposed to necessity-driven start-ups) weighted with the combined effect of taxation and government quality of services.
Technology Absorption	The Technology Absorption pillar reflects the technology-intensity of a country's start-up activity combined with a country's capacity for firm-level technology absorption.
Human Capital	The Human Capital pillar captures the quality of entrepreneurs as weighing the percentage of start-ups founded by individuals with higher than secondary education with a qualitative measure of the propensity of firms in a given country to train their staff combined with the freedom of the labour market.
Competition	The Competition pillar measures the level of the product or market uniqueness of start-ups combined with the market power of existing businesses and business groups as well as with the effectiveness of competitive regulation.
Product Innovation	The Product Innovation pillar captures the tendency of entrepreneurial firms to create new products weighted by the technology transfer capacity of a country.
Process Innovation	The Process Innovation pillar captures the use of new technologies by start-ups combined with the Gross Domestic Expenditure on Research and Development (GERD) and the potential of a country to conduct applied research.
High Growth	The High Growth pillar is a combined measure of (1) the percentage of high-growth businesses that intend to employ at least ten people and plan to grow more than 50 percent in five years (2) the availability of venture capital and (3) business strategy sophistication.
Internationalization	The Internationalization pillar captures the degree to which a country's entrepreneurs are internationalized, as measured by businesses' exporting potential weighted by the level of economic complexity of the country.
Risk Capital	The Risk Capital pillar combines two measures of finance: informal investment in start-ups and a measure of the depth of the capital market. Availability of risk capital is to fulfil growth aspirations.

Source: (Zoltán , László , Esteban, & Gábor , 2019)

Table 2.3. The Description of the Individual Variables Used in the GEI

Individual variables/indicators	Description
Opportunity Recognition	The percentage of the 18-64 aged population recognizing good conditions to start business next 6 months in area he/she lives,
Skill Perception	The percentage of the 18-64 aged population claiming to possess the required knowledge/skills to start business
Risk Perception	The percentage of the 18-64 aged population stating that the fear of failure would not prevent starting a business
Know Entrepreneurs	The percentage of the 18-64 aged population knowing someone who started a business in the past 2 years
Career*	The percentage of the 18-64 aged population saying that people consider starting business as good career choice
Status*	The percentage of the 18-64 aged population thinking that people attach high status to successful entrepreneurs
Career Status	The status and respect of entrepreneurs calculated as the average of Career and Status
Opportunity Motivation	Percentage of the TEA businesses initiated because of opportunity start up motive
Technology Level	Percentage of the TEA businesses that are active in technology sectors (high or medium)
Educational Level	Percentage of the TEA businesses owner/managers having participated over secondary education
Competitors	Percentage of the TEA businesses started in those markets where not many businesses offer the same product
New Product	Percentage of the TEA businesses offering products that are new to at least some of the customers
New Technology	Percentage of the TEA businesses using new technology that is less than 5 years old average (including 1 year)
Gazelle	Percentage of the TEA businesses having high job expectation average (over 10 more employees and 50% in 5 years)
Export	Percentage of the TEA businesses where at least some customers are outside country (over 1%)
Informal Investment	The mean amount of 3-year informal investment
Business Angel	The percentage of the population aged 18-64 who provided funds for new business in past 3 years, excluding stocks and funds, average
Informal Investment	The amount of informal investment calculated as Informal investment mean*Business Angel

Source: (Zoltán , László , Esteban, & Gábor , 2019)

Table 2.4. The Description and Source of the Institutional Indicators and Variables Used in the GEI

Institutional Variable/i	Description
Economic Freedom*	"Business freedom is a quantitative measure of the ability to start, operate, and close a business that represents the overall burden of regulation, as well as the efficiency of government in the regulatory process.
Property Rights*	"The property rights component is an assessment of the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state.
Freedom and Property	Economic Freedom x Property Rights
Tertiary Education*	Gross enrolment ratio in tertiary education
Quality of Education*	Refers the quality of math and science education
Education	Tertiary Education x Quality of Education
Country Risk	The country risk classifications are meant to reflect country risk.
Urbanization*	It is the percentage of the population living in urban areas.
Infrastructure*	Refers extensive and efficient infrastructure that is critical for ensuring the effective functioning of the economy."
Connectivity	Urbanization x Infrastructure
Corruption	Measured by the perceived level of public-sector corruption in a country/a given area.
Taxation*	Addresses the taxes and mandatory contributions that a medium size company must pay or withhold in a given year, as well as measures the administrative burden in paying taxes.
Good Governance*	The capacity of the government to effectively formulate and implement sound policies
Tax governs	Measures the effectiveness of using the taxes by combining together the level of the tax by the quality of government services, Taxation x Good Governance
Tech Absorption	The extent to businesses adopt the latest technologies
Labour Freedom*	Measures the freedom of the labour as "(...) that considers various aspects of the legal and regulatory framework of a country's labour market, including regulations concerning minimum wages, laws inhibiting layoffs, severance requirements, and measurable regulatory restraints on hiring and hours worked.
Staff Training*	The extent of staff training of companies
Labour Market	Labour Freedom * Staff Training
Regulation*	Effectiveness of anti-monopoly policy at ensuring fair competition
Market Dominance*	Extent of market dominance characterize with corporate activity
Comp regulation	Regulation x Market Dominance
Technology Transfer	A complex measure of innovation including investment in research and development (R&D) by the private sector, the presence of high quality scientific research institutions and the collaboration in research between universities and industry, and the protection of intellectual property.

GERD*	Gross domestic expenditure on Research & Development (GERD) as a percentage of GDP
Scientific Institutions*	Quality of scientific research institutions.
Availability of Scientist*	Availability of scientists and engineers
Science	GERD x Average of Scientific Institutions and Availability of Scientist
Venture Capital*	Venture capital availability measuring easiness for start-up entrepreneurs with innovative but risky projects to obtain equity funding
Business Strategy*	Refers to the ability of companies to pursue distinctive strategies, which involves differentiated positioning and innovative means of production and service delivery.
Finance and Strategy	Venture Capital x Business Strategy
Economic complexity	The complexity of an economy is related to the multiplicity of useful knowledge embedded in it. Because individuals are limited in what they know, the only way societies can expand their knowledge base is by facilitating the interaction of individuals in increasingly complex networks in order to make products. We can measure economic complexity by the mix of these products that countries are able to make
Depth of Capital Market	This variable is a complex measure of the size and liquidity of the stock market, level of IPO, M&A and debt and credit market activity.

Source: (Zoltán , László , Esteban, & Gábor , 2019)

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Research Design

The research combined both descriptive and explanatory design. The descriptive part detailed general entrepreneurial ecosystem of Gurage Zone by using Global Entrepreneurship Index (GEI) method and descriptive statistic. In the explanatory part, by taking the entrepreneurial initiative of individuals as a central issue in the larger ecosystem, initiative determining factors were analysed. Hence, the dependent variable entrepreneurial initiative of individuals was assessed by a single questionnaire and the independent variables (both individual and environmental factors) were assessed by using about 32 questionnaires.

3.2. The Study Area

The study conducted in the Gurage Zone consisting of sixteen Woreda and five city administrations. For the purpose of this study only city centres were targeted. The main reason for special focus on city centre is that most of entrepreneurship ecosystem particularly institutional factors are more or less exhibited in the city centres. Also it is difficult to discuss entrepreneurship in relation to rural areas because of negative situation that relates to human capital and social capital in rural areas. Unfavourable rural situation like lack of critical economic mass; geographical isolation and remoteness; small number of economic support organizations in the area; lack of financial capital; higher cost of bringing in business; less skilled workforce; general lack of social capital, including contacts and relationships have a negative impact on the entrepreneurship development of rural regions (Kusio & Fiore, 2022). Thus, the research conducted in eight city towns. The target population for the study is adult groups or working groups between the ages of 18-64. Accordingly, the population size of the study group is 124,530.7. From the total population 64, 056.52277 are male and 60, 474.188 are females (Gurage Zone Plan Commission Office, 2022).

3.3. Sample Size and Sampling Procedure

The researcher used simple random sampling method. In the zone there are 16 cities centres. Among these eight city centres were taken randomly. These are Wolkite, Butajira, Emdibir, Agena, Ensino, Gunchire and Bue. The total population in these city centres is 124,530.7108. To draw the sample size, the researcher used Cochran's method of sample size determination method. Accordingly, the sample size is 392. Then the total sample size

divided into each eight city centres proportionally. To draw each respondent the researcher used convenience sampling to collect the data from the sample since getting a sample frame is impossible.

$$n_0 = \frac{z^2\frac{\alpha}{2} * p * q}{d^2} = \frac{1.96 * 1.96 * 0.5 * 0.5}{0.05^2} = 384.16 = 385$$

Where, $z\frac{\alpha}{2}$ is a 95 percent confidence interval, which will be 1.96

P is proportion of success, which is 0.5, and q will be 1-p

d is the level of precision, which is 0.05.

to calculate the final sample size with population correction we used the formula given below,

$$n = \frac{n_o}{1 + \frac{(n_o - 1)}{N}} = \frac{385}{1 + \frac{(385 - 1)}{156744.5}} = 384.96 = 385$$

Where n signifies the sample size

N signifies the population under study

Accordingly, the actual sample size for this study is 385, but when figures are round up it is 392

Table 3.1. Proportional distribution of the sample is shown below

No	**City Administration**	**2014**			**Proportion**	**Sample**	**Sex ratio**		**Sample Ratio Among sex**		**Final Sample size**
		M	**F**	**T**	**C/T**	**383**	**M/T**	**F/T**	**M**	**F**	
1	Agena	1,454	1,865	3,319	0.02	10	0.44	0.56	4	6	10
2	Eniseno	5,215	4,859	10,074	0.07	28	0.52	0.48	15	14	29
3	Arkit	1,061	1,395	2,456	0.02	7	0.43	0.57	3	4	7
4	Wolkite	26,033	21,699	47,732	0.34	131	0.54	0.46	72	60	132
5	Butajira	20,592	19,501	40,093	0.29	110	0.51	0.49	57	54	111
6	Emdibir	7,273	8,259	15,532	0.11	43	0.47	0.53	20	23	43
7	Bue	5,278	5,153	10,431	0.05	29	0.51	0.49	15	15	30
8	Gunchire	4,881	5,862	10,743	0.08	30	0.45	0.55	14	16	30
	Total	71,787	68,593	140,380	1	389	0.51	0.49	200	192	392

3.4. Data Sources

Primary and secondary sources were extensively utilized. The primary data was collected using structured questionnaires. The content of questionnaires was related to measuring

individual and institutional components that measure entrepreneurship ecosystem. The questioners were internationally standardized that derived from global entrepreneurship monitor, global competitiveness index, World Bank and World economic forum. Secondary sources were collected from different international indexing organizations and from Gurage Zone Plan sector.

3.5. Data Analysis

The researcher used descriptive statistics analysis, correlation analysis and binary logistic regression. To achieve the first objective the researcher employed GEI method by which the general entrepreneurship ecosystem and the result of each pillars and the 3As discussed. To examine the closeness of relationship between entrepreneurial initiatives of individuals and entrepreneurial ecosystem (individual and institutional factors) the researcher used binary logistic regression model. The model is described with equation below. The data analysed by using SPSS version 23 (William , 1977) and excel.

The relationship between the independent and dependent variables is not a linear function in logistic regression; instead the logistic regression function which is the logit transformation of the success probability is used. Consider a collection of k independent variables denoted by the vector $X' = (X_1, X_2, \dots, X_k)$. Then the conditional probability that i^{th} dependent variable has been affected by the given vector of independent variables X_i is denoted by $P(y = 1 / X) = \pi(X)$. Then, the logistic regression model for explaining data is given by;

$$\pi(X) = \frac{\exp(\beta_0+\beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k)}{1 + \exp(\beta_0+\beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k)}$$

Then, the logit or log-odds of having y=1 is modeled as a linear function of the explanatory variables as:

$$\text{logit}\big(\pi(X)\big) = \log\left(\frac{\pi(X)}{1-\pi(X)}\right) = \beta_0+\beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k \,; 0 \le \pi(X) \le 1$$

Where, β_0 is a constant of the equation and $\beta_1, \dots \beta_k$ are the coefficients of the predictor variables. The estimated logistic coefficient β_j's are interpreted as the change in the log-odds for every unit increase or decrease (depending on the variable change in X_i) holding other predictors constant (Alan, 2019).

3.6. Ethical Issues

To adhere to the ethics of the research method and the academic community, all sources used in this research have been cited. For data gathering, a permission letter was collected from the concerned institution. During the data gathering, the informed consent of the participants was requested.

CHAPTER FOUR

4. RESULTS AND DISCUSSION

4.1. Demographic Variables

In total 392 participated in the study. Of these, 250 (63.8%) are males and 142 (36.2%) are females. Entrepreneurial initiatives participants across gender, 50% of males do have entrepreneurial initiatives and 50% of males don't have. While 46.5% of females do have entrepreneurial initiatives and 53.5% of males don't have (table 5). Ethnic composition of the respondents is 79.8%, 9.2%, 6.4% and 4.6% Gurage, Amhara, Oromo and others respectively. An entrepreneurial initiative across ethnicity is almost similar that nearly 50% do have entrepreneurial initiatives and 50% don't have from each ethnicity. The other demographic variables can be described similarly based on table 5

Table 4.1. Demographic Variables Summery

Variable	Categories	Count (%)	Initiatives	
			Yes (%)	No (%)
Sex	Male	250(63.8)	50	50
	Female	142(36.2)	46.5	53.5
Ethnicity	Guraghe	313(79.8)	48.6	51.4
	Amhara	36(9.2)	52.8	47.2
	Oromo	25(6.4)	44	56
	Others	18(4.6)	50	50
Religion	Orthodox	180(45.9)	53.9	46.1
	Muslim	131(33.4)	46.6	53.4
	Protestant	62(15.8)	37.1	62.9
	Catholic	18(4.6)	50	50
	Others	1(0.3)	0.3	0
Marital Status	Married	199(50.8)	47.2	52.8
	Single	170(43.4)	51.8	48.2
	Divorced	8(2)	37.5	62.5
	Widowed	12(3.1)	50	50
Educational Status	Illiterate	16(4.4)	37.5	62.5
	Elementary	32 (8.2)	31.2	68.8
	Secondary	80 (20.4)	48.8	51.2
	Preparatory	76(19.4)	39.5	60.5
	Diploma	60 (15.3)	50	50
	Degree & above	128)32.7	59.4	40.6

Sources: Own Survey (2023)

4.2. Descriptive Summary of Age

The mean age of the respondents' is 30.03 with a minimum age of 18 and 65 maximum age. The median age is 28 with standard deviation of 8.172

Table 4.2. Descriptive Summery of Age

Mean	Median	Std. Deviation	Minimum	Maximum
30.03	28	8.172	18	65

Sources: Own Survey (2023)

4.3. Individual Variables and Entrepreneurial Initiatives

From the participants 170 (43.4%) have better opportunities recognition ability and the rest 222 (56.6%) don't have. From those who better recognize opportunities 33.5% do have entrepreneurial initiatives and 66.5% don't have entrepreneurial initiatives. Among those who don't recognize entrepreneurial opportunities 60.4% do have entrepreneurial initiatives and 39.6 don't have entrepreneurial initiatives. From the respondents, 349 (89%) perceives that they do have knowledge and skill to run their own business. Of these 49.9 % do have entrepreneurial initiatives and 50.1 don't have entrepreneurial initiatives. The rest 43 (11%) of the respondents believe that they don't have the necessary skill and knowledge to start and run their own business. Among this category, 39.5% do have entrepreneurial initiatives and 60.5 don't have entrepreneurial initiatives.

Table 4.3. Individual Variables and Entrepreneurial Initiatives

Variables	Categories	Count (%)	Initiative	
			Yes (%)	No (%)
Opportunity recognition	Yes	170 (43.4)	33.5	66.5
	No	222(56.6)	60.4	39.6
Skill perception	Yes	349(89)	49.9	50.1
	No	43(11)	39.5	60.5
Risk perception	Yes	139(35.5)	46.6	55.4
	No	253(64.5)	51	49
	Yes	77(19.6)	29.9	70.1
Network	No	315(80.4)	53.3	46.7
Career Choice	Yes	349(89)	51.9	48.1
	No	43(11)	23.3	76.7
Status and respect	Yes	311(79.3)	55.9	44.1
	No	81(20.7)	21	79
Motivation	Take advantage	176(44.9)	63.1	36.9
	No better choice	139(35.5)	34.5	65.5
	Both	77(19.6)	41.6	58.4
Technology	High	44(11.2)	61.4	38.6
	Medium	172(43.9)	48.3	51.7
	Low	176(44.9)	46	54
Products/services	Many	152(38.8)	50.7	49.3
	Few	164(41.8)	48.4	50.6
	No	76(19.4)	43.3	56.6
Product nobility	All	40(10.2	50	50
	Some	215(54.8)	49.3	50.7
	None	137(34.9)	47.4	52.6
Duration of technology use/year	>5	214(54.6)	46.7	53.3
	1-5	133(33.9)	52.6	47.4
	<1	45(11.5)	46.7	53.3
Job created	No	276(70.4)	44.6	55.4
	1-9	113(28.8)	58.4	41.6
	>10	3(0.8)	66.7	33.3
Job expected	No	292(74.5)	42.1	57.9
	1-4	46(11.7)	69.6	30.4
	>5	54(13.8)	66.7	33.3
Export	>90	23(5.9)	52.2	47.8
	76-90	8(2)	37.5	62.5
	51-75	13(3.3)	61.5	38.5
	26-50	3(0.8)	66.7	33.3
	11-25	3(0.8)	66.7	33.3
	10 or <10	15(3.8)	26.7	73.3
	None	327(83.4)	48.9	51.1
Business angel	Yes	89(22.7)	51.7	48.3
	No	303(77.3)	47.9	52.1
Informal Investment	No	363(92.6)	47.4	52.6
	>2000	29(7.4)	65.5	34.5

Sources: Own Survey (2023)

4.4. Institutional Variables and Entrepreneurial Initiatives

Almost all the respondents evaluated the easiness of regulation/producers related with trade license, accounting reporting and the like as difficult. From this 48.7% do have entrepreneurial initiatives and the rest 51.3 don't have. When the respondents evaluated the extent of property rights protection, including financial assets, 192 (49%) of rated the protection as low and 104 (26.5%) as moderate/some extent and 96 (24.5%) as high /many extent. Among those who rated the property right protection system is low, 59.9 % have entrepreneurial initiatives and 40.1% don't have entrepreneurial initiatives.

Table 4.4. Institutional Variables and Entrepreneurial Initiatives

Variable	Categories	Count (%)	Initiative	
			Yes (%)	No (%)
Economic Freedom	Difficult	392(100)	48.7	51.3
	Moderate	0	0	0
	Easy	0	0	0
Property Right	Low extent	192(49)	59.9	40.1
	Some extent	104(26.5)	45.2	54.8
	Many extent	96(24.5	30.2	69.8
Quality of Education	Poor	285(72.7)	44.9	55.1
	Fair	67(17.1)	55.2	44.8
	Good	40(10.2)	65	35
	Poor	342(87.2)	45	55
	Fair	39(9.9)	71.8	28.2
Infrastructure	Good	11(2.8)	81.8	18.2
Corruption	Weak	325(82.9)	52.9	47.1
	Strong	67(17.1)	28.4	71.6
Governance	High	93(23.7)	72	28
	Fair	201(51.3)	41.3	58.7
	Low	98(25)	41.8	58.2
Staff Training	Low	251(64)	57	43
	Moderate	75(19.1)	41.3	58.7
	High	66(16.8)	25.8	74.2
Labour	Low	251(64)	48.6	51.4
	Moderate	110(28.1)	46.4	53.6
	High	31(7.9)	48.7	51.3
Regulation	Fairly ineffective	298(76)	44.3	55.7
	Effective	10(2.6)	30	70
	Fairly ineffective	84(21.4)	66.7	33.3
Corporate activities	A few	328(84.8)	48.8	51.2
	Few	27(7)	48.1	51.9
	Single	32(8.3)	50	50
Quality of scientific research	Poor	355(90.6)	47.9	52.1
	Fair	24(6.1)	62.5	37.5
	Good	13(3.3)	46.2	53.8
Scientist & engineers availability	Low	211(53.8)	43.6	56.4
	Fair	53(13.5)	60.4	39.6
	High	128(32.7)	52.3	47.7
Venture capital	Difficult	297(75.8)	45.8	54.2
	Fair	44(11.2)	36.4	63.6
	Easy	51(13)	76.5	23.5
Business strategy	Low	168(42.9)	48.8	51.2
	Fair	105(26.8)	48.6	51.4
	High	119(30.4)	48.7	51.3

Sources: Own Survey (2023)

4.5. Inferential Analysis

The cross tabulation used to identify the candidate variables for binary logistic regression analysis. Variables with P-values less than 0.05 were selected for multiple logistic regression analysis. Accordingly, the cross tabulation indicates that opportunity perception, knowing entrepreneurs, career choice, attaching high status, opportunity motivation, job created and job expected from individual variables and property right, education right, infrastructure, corruption, good governance, staff training, regulation and availability of venture capital from institutional variables of entrepreneurship ecosystem are significantly associated with entrepreneurship initiatives.

4.5.1. Entrepreneurship Initiatives and Individual Variables of Entrepreneurial Ecosystem

Table 4.5. Cross tabulation between entrepreneurship initiatives and corresponding individual variables of entrepreneurial ecosystem

Variable	Chi-square	df	Sig.
Opportunity Perception	27.671	1	0.000
Skill Perception	1.628	1	0.202
Risk Perception	1.460	1	0.227
Know Entrepreneurs	13.600	1	0.000
Career	12.508	1	0.000
Status	31.359	1	0.000
Opportunity Motivation	16.571	1	0.000
Technology Level	2.420	1	0.120
Competitors	0.909	1	0.340
New Product	0.134	1	0.715
New Technology	0.240	1	0.624
Job created	6.488	1	0.011
Job expected	16.622	1	0.000
Export	0.143	1	0.706
Business Angel	0.403	1	0.526
Informal Investment	3.526	1	0.060

Sources: Own Survey (2023)

4.5.2. Entrepreneurship Initiatives and Institutional Variables of Entrepreneurial Ecosystem

Table 4.6. Cross tabulation between entrepreneurship initiatives and corresponding institutional variables of entrepreneurial ecosystem

Variable	Chi-square	Df	Sig.
Property Right	23.224	1	0.000
Education Quality	7.012	1	0.008
Infrastructure	14.392	1	0.000
Corruption	13.382	1	0.000
Good Governance	16.908	1	0.000
Staff training	22.351	1	0.000
Labour Market	0.257	1	0.612
Regulation	12.033	1	0.001
Market Dominance	0.009	1	0.923
Scientific institute	0399	1	0.528
Availability of Scientists	2.962	1	0.085
Venture Capital	10.777	1	0.001
Business Strategy	0.00	1	0.988

Sources: Own Survey (2023)

4.5.3. Hosmer and Lemeshow Test of Individual variables of Entrepreneurship Ecosystem

Table 4.7. Hosmer and Lemeshow Test of Individual variables of Entrepreneurship Ecosystem

Step	Chi-square	df	Sig.
1	4.952	8	.763

Sources: Own Survey (2023)

4.5.4. Multiple binary logistic regression Results for the associations between initiative and individual variables

Table 4.8. Multiple binary logistic regression results for the associations between entrepreneurship initiatives and corresponding individual variables of entrepreneurial ecosystem

Variable	Categories	B	S.E.	Wald	df	Sig.	AOR	95% C.I.for EXP(B)	
								Lower	Upper
Opportunity Perception	Yes	.658	.268	6.019	1	.014*	1.930	1.141	3.265
	No (Ref.)								
Know Entrepreneurs	Yes	.695	.305	5.184	1	.023*	2.004	1.102	3.644
	No(Ref.)								
Career	Yes	1.002	.430	5.429	1	.020*	2.724	1.173	6.329
	No(Ref.)								
Status	Yes	.927	.366	6.399	1	.011*	2.527	1.232	5.182
	No(Ref.)								
Opportunity Motivation	Advantage			15.063	2	.001*			
	No choice	-.731	.309	5.587	1	.018*	.482	.263	.883
	Both	.243	.320	.577	1	.447	1.275	.681	2.386
Job created	No job			.117	2	.943			
	1-9 persons	-.067	.311	.047	1	.829	.935	.508	1.721
	10 and more persons	.297	1.366	.047	1	.828	1.345	.092	19.572
Job expected	No job			9.863	2	.007*			
	1-4 persons	.985	.437	5.085	1	.024*	2.678	1.138	6.306
	5 and more	-.097	.513	.036	1	.850	.907	.332	2.478
Constant		-1.824	.468	15.153	1	.000	.161		

Sources: Own Survey (2023)

The logistic model revealed that opportunity perception, knowing entrepreneurs, career choice, attaching high status, opportunity motivation and job expectation are significantly associated with entrepreneurial initiatives. Subsequently, the odds of those people recognizing good conditions to start business in next six months in the area where they live have 1.93 times more initiative to start new business (to be entrepreneur) than those who couldn't recognize better conditions to start business in the next six months. Similarly people who know someone who started a business in the past two years (those who have

network) are two times more initiated to start new business (to be entrepreneur) than those people who don't know someone who started a business in the past two years.

According to the result, people who consider starting business as good career choice have 2.7 times more initiation to start new business (to be entrepreneur) than who don't consider starting business as good career choice. Similarly, people who believe that the society in which they live attach high status to successful entrepreneurs have 2.5 times more initiatives to entrepreneurship than those who believe that the society in which they live don't attach high status to successful entrepreneurs.

The result also demonstrates that total early business activities that involved in new business start-up because they have no better choices for work are 51.8% less likely to be initiated to start new business (to be entrepreneur) than those who involved in new business start-up to take advantage of a business opportunity. Moreover, total early businesses activities that have high job expectation have 2.7 times more initiatives to entrepreneurship than those having no job expectation.

4.5.5. Hosmer and Lemeshow Test of Institutional Variable

Table 4.9. Hosmer and Lemeshow Test of Institutional Variable

Step	Chi-square	Df	Sig.
1	13.208	8	.105

Sources: Own Survey (2023)

The Hosmer and Lemeshow Test for individual and institutional variables indicates that the P-value is greater than 0.05 and that the null hypothesis is rejected so that the logistic model fits the data well (table 11 and 13).

4.5.6. Binary logistic regression results for the associations between initiative and institutional variables

Table 4.10. Binary logistic regression results for the associations between initiation and corresponding institutional variables of entrepreneurial ecosystem

Variable	Categories	B	S.E.	Wald	df	Sig.	AOR	95% C.I.for EXP(B)	
								Lower	Upper
Property Right	Low extent (Ref)			9.699	2	.008			
	Fair	.400	.286	1.945	1	.163	1.491	.850	2.614
	High extent	1.056	.346	9.323	1	.002	2.875	1.460	5.664
Quality of Education	Poor (Ref)			.050	2	.975			
	Fair	.086	.446	.037	1	.847	1.090	.455	2.613
	Good	.112	.513	.048	1	.827	1.119	.410	3.055
Infrastructure	Poor (Ref)			10.007	2	.007			
	Fair	1.960	.915	4.588	1	.032	7.097	1.181	42.646
	Good	.844	.994	.721	1	.396	2.326	.331	16.333
Corruption	Weak (Ref)								
	Strong	1.128	.354	10.142	1	.001	3.090	1.543	6.186
Good Governance	High(Ref)			27.807	2	.000			
	Fair	-1.711	.384	19.832	1	.000	.181	.085	.384
	Low	.088	.293	.090	1	.764	1.092	.615	1.941
Staff training	Low(Ref)			19.500	2	.000			
	Moderate	.617	.310	3.964	1	.046	1.853	1.010	3.399
	High	1.741	.409	18.146	1	.000	5.705	2.560	12.713
Regulation	Fairly Ineffective(Ref)			10.370	2	.006			
	Effective	1.069	.354	9.144	1	.002	2.913	1.457	5.827
	Fairly effective	1.663	.879	3.577	1	.059	5.273	.941	29.531
Venture Capital Availability	Difficult(Ref)			8.535	2	.014			
	Fair	1.040	.454	5.256	1	.022	2.829	1.163	6.884
	Easy	1.612	.556	8.412	1	.004	5.013	1.687	14.901
Constant		-.336	1.129	.088	1	.766	.715		

Sources: Own Survey (2023)

The logistic model for the association between entrepreneurship initiatives and institutional variables of entrepreneurship ecosystem uncovers that property right; infrastructure, the public corruption perception, good governance, staff training, effectiveness of anti-monopoly policy (regulation) and venture capital availability are significantly correlated with entrepreneurship initiative. In view of that those people who assume that property

right is protected at high extent in their area have 2.875 times more probability to be initiated for entrepreneurship than those who supposes that property rights protection in their area is at low extent controlling other variables constant in the model.

Those who think that the general state of infrastructure (e.g., transport, communications, and energy) in their city is fair have 7.097 times more initiation for entrepreneurship than those who believe that the general state of infrastructure (e.g., transport, communications, and energy) in their city is poor.

The population those who accept that the accountability of the executive to oversight institutions and of public employees for their performance, access of civil society to information on public affairs and mechanisms to control narrow vested interests is strong are 3.09 times more likely to have entrepreneurship initiation than those who believe the systems are weak.

Besides, the public who confirmed the effectiveness of the government or the capacity of the government to effectively formulate and implement sound policies is high are 82% more likely to have entrepreneurial initiatives than they said the system's effectiveness is fair.

Those people who are certain of that companies' investment in training and employee development in their city is moderate are 1.853 times more likely to have entrepreneurial initiatives than those who said low. Similarly, those who believe that companies' investment in training and employee development in their city is high are 5.705 times more initiated for entrepreneurship. The people who admitted that effectiveness of anti-monopoly policies at ensuring fair competition in their city is effective are 2.9 times more entrepreneurial initiatives than those who said they are fairly ineffective.

People who said it is easy to start-up entrepreneurs with innovative but risky projects to obtain equity funding are 5.013 times more likely to be entrepreneur than who said it is difficult. Similarly, people who said it is fair to start-up entrepreneurs with innovative but risky projects to obtain equity funding are 2.829 times more likely to be entrepreneur than who said it is difficult.

4.6. Entrepreneurial Ecosystem of Gurage Zone Based on GEI Approach

As indicated in the methodological part, there are two major components of entrepreneurship ecosystem. These are individual and institutional pillars. The individual pillars computed based on 16 individual variables and the institutional pillars are obtained based on 15 institutional variables. The individual data collected from individuals identified by the sampling producers. The questionnaires for individual were copied from global entrepreneurship monitor, adult population survey data set. Some of the institutional data (that ask individual perception toward the specific institutions) collected from individuals by using questionnaires. The questionnaires were derived from transparency international (corruption perception index), World Bank (economic freedom, property rights, labour freedom) and world economic forum (infrastructure, regulation, scientific institutions, availability of scientists, business sophistication, technology absorption and technology transfer capability, staff training, market dominance, venture capital),

Secondary data obtained from the heritage foundation, the World Bank (taxation, good governance), the observatory of economic complexity (economic complexity), OECD (country risk), and the venture capital & private equity country attractiveness index (depth of capital market), UNESCO (tertiary education enrolment, GERD) and urbanization (own calculation used to get urbanization level of the Zone). Data obtained from the secondary sources that most of them are macro (national) level data that doesn't exist at regional or Zonal level are directly used.

Computation of the individual data is based on the method of the sources of the questionnaires. For the individual variables, percentage was used (Table 15). Institutional data that collected from likert scale questionnaires were converted to 1 to 100 based on proportion. Then the mean was taken.

Finally, by combining the individual and institutional variables, the score of each pillar were computed. To compute each pillar the global entrepreneurship index method was used. Accordingly, the method uses a multiplication of each individual and institutional variables rather than using the average. The justification is that using average fails to capture the systemic interaction of each variable. Here the basic of interaction among parts in a system is echoed.

Pillars values (column 2 of table 15) were first normalized to a range from 0 to 1, using the distance method. This normalization technique relates the performance of a pillar to the

best performing pillar. Hence, it provides a proper benchmark to evaluate performance of a particular pillar in a system to the best available practice. Since the pillars are assumed in the system, their performance is evaluated in interdependently rather than independently.

From the given eight steps of GEI score calculation, two steps are intentionally omitted, because they are used to adjust the variations of data from different country and different time. They are adopted to adjust the outlier since most of the GEI is calculated by using longitudinal data from different country. But in this research data is from a single area and at a single time. Therefore, there is no need of time and place adjustment.

4.6.1. Calculating the Scores

The entrepreneurship score is calculated according to the following eight points. The method is a direct copy past of global entrepreneurship index method with a simple modification

1. The selection of variables: the researcher started with the variables that come directly from global entrepreneurship monitor (individual variables) and different sources like transparency international (corruption perception index), World Bank, heritage foundation, world economic forum, the observatory of economic complexity, OECD, and the venture capital & private equity country attractiveness index, UNESCO and United Nations. Altogether I used 16 individual and 15 institutional variables.
2. The construction of the pillars: the researcher calculates all pillars from the variables using the interaction variable method; that is, by multiplying the individual variable with the corresponding institutional variable.

$$z_j = IND_j * INS_j \quad (1)$$

For all j=1 … k the number of individual, institutional variables and pillars

IND_j is the original score value for j individual variable

INS_j is the original score value for j institutional variable

z_j is the calculated pillar value pillar j

3. Normalization: Pillar values were first normalized to a range from 0 to 1, according to equation 2:

$$x_j = \frac{z_j}{maxz_j} \quad (2)$$

for all j = 1...k, the number of pillars

where x_j is the normalized score value for pillar j max zj is the maximum value for pillar j

4. Capping: All ecosystem building is based on a benchmarking principle. I selected the 95th percentile score adjustment, meaning that any observed values higher than the 95th percentile are lowered to the 95th
5. Average pillar adjustment: The different averages of the normalized values of the indicators imply that reaching the same indicator values requires different effort and resources. Since I want to apply the GEI for public policy purposes, the additional resources for the same marginal improvement of the indicator values should be the same for all indicators. Therefore, I need a transformation to equate the average values of

   the components. Equation 3 shows the calculation of the average value of pillar j:

$$\bar{x}_j = \frac{\sum_{i=1}^{n} x_j}{n} \tag{3}$$

   To transform the x_j, values such that the potential minimum value is 0 and the maximum value is 1:

$$y_j = x_j^k \tag{4}$$

   where k is the "strength of adjustment", the k^{th} moment of X_j is exactly the needed average, y_j. We have to find the root of the following equation for k

$$\sum_{i=1}^{n} x_j^k - \mathrm{n}\bar{y}_j = 0 \tag{5}$$

   It is easy to see, based on previous conditions and derivatives, that the function is decreasing and convex, which means it can be solved quickly using the well-known Newton-Raphson method with an initial guess of 0. After obtaining k , the computations are straightforward. Note that if

$$\bar{x}_j < \bar{y}_j \quad k < 1$$
$$\bar{x}_j = \bar{y}_j \quad k = 1$$
$$\bar{x}_j > \bar{y}_j \quad k > 1$$

   then k is thought of as the strength (and direction) of adjustment.
6. Penalizing: After these transformations, the PFB methodology was used to create indicator-adjusted PFB values. Penalty function was defined as follows:

$$h_j = miny_j + (1 - e^{-(y_j - miny_j)})$$

   where h_j is the modified, post-penalty value of pillar j.

   y_j is the normalized value of index component j.

   y_{min} is the lowest value of y_j

j = 1, 2, - - - m= the number of pillars

7. The pillars are the basic building blocks of the sub-ecosystem: Entrepreneurial Attitudes, Entrepreneurial Abilities, and Entrepreneurial Aspirations. The value of a sub-ecosystem for any area is the arithmetic average of its PFB adjusted pillars for that sub-index, multiplied by 100. The maximum value of the sub-indices is 100, and the potential minimum is 0, both of which reflect the relative position of an area in a particular sub-index.

$$\text{ATT} = 100 \sum_{j=1}^{5} h_j \qquad (7a)$$

$$\text{ABT} = 100 \sum_{j=6}^{9} h_j \qquad (7b)$$

$$\text{ASP} = 100 \sum_{j=10}^{14} h_j \qquad (7c)$$

where h_j is the modified, post-penalty value of pillar j.

j = 1, 2, - - - 14 = the number of pillars

8. The super-ecosystem is simply the average of the three sub-ecosystems. Since 100 represents the theoretically available limit, the entrepreneurship points can also be interpreted as a measure of the efficiency of the entrepreneurship resources

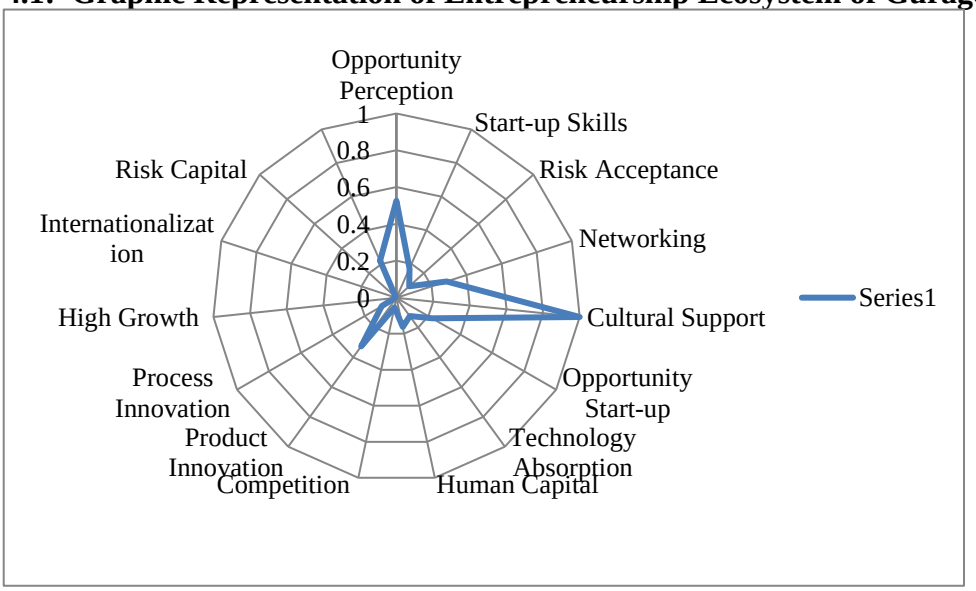
$$\text{EES} = \frac{1}{3}(ATT + ABT + ASP) \qquad (8)$$

Table 4.11. Calculated Entrepreneurship Ecosystem Result of Gurage Zone

	Pillars	Pillar Value	Normalized Value	Penalized Score	Penalty Score	Penalty %
Entrepreneurial Attitudes	Opportunity Perception	11.97	0.526	0.412	0.11	21.74
	Start-up Skills	3.91	0.172	0.159	0.013	7.53
	Risk Acceptance	2.11	0.093	0.089	0.004	3.90
	Networking	6.53	0.287	0.251	0.036	12.51
	Cultural Support	22.76	1	0.636	0.364	36.38
Entrepreneurial abilities	Opportunity Start-up	5.18	0.225	0.203	0.022	9.88
	Technology Absorption	2.80	0.123	0.1163	0.007	5.31
	Human Capital	3.69	0.162	0.150	0.012	7.10
	Competition	1.21	0.053	0.052	0.001	2.03
Entrepreneurial Aspirations	Product Innovation	7.44	0.327	0.281	0.046	14.16
	Process Innovation	2.12	0.093	0.090	0.004	3.93
	High Growth	0.19	0.00835	0.008	1.86778E-06	0.02
	Internationalization	0.15	0.006	0.006	0	0
	Risk Capital	0.20	0.00830	0.008	1.77715E-06	0.02
	Average	5.01	0.22	0.18	0.044	8.89

Sources: Own Survey (2023)

Figure 4.1: Graphic Representation of Entrepreneurship Ecosystem of Gurage Zone



As it can be seen on table 15

Overall Entrepreneurship Ecosystem (EE) Score of Gurage Zone is 17%

Individual Pillars Average Score is 30.10 %

Institutional Pillars Average Score is 16.84%

Strength area among the fourteen pillars is **Cultural Support**

Among the given fourteen pillars of entrepreneurship ecosystem of the Zone, the best performing pillar is cultural support, it is 100% compared with others. The cultural support pillar combines how positively a given country's or area's inhabitants view entrepreneurs in terms of status and career choice and how the level of corruption in that area affects this view. At individual level it measures the inhabitants' perception toward starting business as good career choice and successful entrepreneurs. Institutionally, this pillar measures the perceived level of public-sector corruption in a country. When we compare both individual and cultural dimension of the pillar, the individual dimension, career status performs better with 64.8% score. This means from the given adult population 64.8% of them consider starting business as good career choice and attach high status to successful entrepreneurs. The institutional dimension, perception of the public toward corruption in public sector is 35.5 (in the measurement of corruption, 100 = corruption is very low and 0 = corruption is very high). When the score approach to zero it implies the public perception toward corruption in public sector is negative (in other words there is corruption)). Thus it can be inferred that the strength area that is cultural support is a result of individual dimension. High score on career status implies that the inhabitants of the study area have positive views of entrepreneurs in terms of status and career choice. Without strong cultural support, the best and brightest do not want to be responsible entrepreneurs, and they decide to enter a traditional profession. The low score in public perception on public sector corruption should be related with the prevalence of corruption in public sector (Szerb, et al., 2018). The exhibited high level of corruption in the zone may undermine the high status and steady career paths of legitimate entrepreneurs.

Next to cultural support the strength area is opportunity perception with the score of 53%. Opportunity perception is a combination of freedom and property right from institutional dimension and opportunity recognition from individual dimension. Both institutional components are vital for individuals to become entrepreneurs and not employees of another business or the state. The individual score, opportunity recognition scored 42%. The institutional variable, freedom and property right scored 28% (100 = very high economic

freedom and property right and 0 = very low economic freedom and property right). Comparatively, the individual pillar is performing better than the institutional one in the Zone. However, better individual variable score is dragged down by low institutional performance. This implies that failure in protecting property rights and ensuring economic freedom in the Zone doesn't guarantee individuals the right to harvest the fruits of successful opportunity exploitation (Zoltán, László, & Erkko , 2016).

The weakness area of the ecosystem is depth of **Internationalization.** The internationalization pillar represents the degree to which a country's entrepreneurs are internationalized, as measured by businesses' exporting potential weighted by the level of economic complexity of the country. The individual pillar measures percentage of the Total early-stage Entrepreneurial Activity (TEA) businesses' customers outside country. Gurage Zone score 16.6% in the pillar. This implies that most of the business men in the study area don't export their products. It may be associated with lack of support in the process of production to produce export standard product and networking and the COVID - 19 pandemic. While the institutional pillar is economic complexity that measures the multiplicity of useful knowledge embedded in the economy. Because individuals are limited in what they know, the only way societies can expand their knowledge base is by facilitating the interaction of individuals in increasingly complex networks in order to make products. The low score of the variable in the zone implies that there is no facilitation that can support individual interaction in complex network to make products. In other word the country's openness to international entrepreneurs is very weak. In the study area the involvement of international entrepreneur is very low too.

It is also important to remind that the institutional score for the pillar is taken from secondary sources. Also it is not Zonal level data rather it is national level data. Accordingly the score is 0.88%. Despite the expected exaggeration of the pillar because of using national level data for the zone, the cumulative score is very low. It can be argued that, the result would be lower than the current result if we could able to compute local level data.

Next to internationalization the weakest area is risk capital. The availability of risk finance, particularly equity rather than debt, is an essential precondition for fulfilling entrepreneurial aspirations that are beyond an individual entrepreneur's personal financial resources. It combines two kinds of finance, the informal investment (informal investment)

and the institutional depth of capital market. Almost both variables scored low result. It means individuals don't have accessible risk capital in the area.

4.6.2. Pillar Performance

According to Sakti Hendra Pramudya and the global entrepreneurship and development institute, entrepreneurship ecosystem or GEI scores are categorized into four ranks. These are that scored above 75% shaded with deep blue, that scored [50%:75%) and shaded with light blue, that scored (50%: 25%] and shaded with yellow and that scored below 25%). From the fourteen (14) pillars, ten (start-up skill, risk acceptance, opportunity start-up, technology absorption, human capital, competition, process innovation, high growth, internationalization and risk capital) scored below worst score (below 25%), two (networking and product innovation) scored the second worst ((50%: 25%]), one (opportunity perception) scored within second best ([50%:75%)) score range and one (cultural support) scored with in the first best (above 75%) range.

4.6.3. Individual and Institutional Components of EE in Gurage Zone

Gurage zone performs better on individual variables than institutional variables. In average individual components performance is 30% while institutional component performance is 17%. Among the individual components skill perception and technology level are best performing, knowing entrepreneur (network) and career status are performing moderately and the rest opportunity recognition, risk perception and new product, opportunity motivation, educational level, competitors, new technology, gazelle, export and informal investment are performing below average. The best performing components contribution is negatively affected by the corresponding institutional components. For example the pillar that contains the better and best performing components of individual pillar is not the best performing pillar of the ecosystem. This is mainly associated with the worse and worst performing ability of the institutional pillars such as corruption (35%), connectivity (9.3%), technology absorption (30%) and education (4.7 %) (Table 16). When we see the institutional components all are under the category of worse (Freedom and Property, Corruption, Tax government and technology absorption) and worst (education, country risk, connectivity, labour market, competitiveness and regulation, technology, science, finance and strategy, economic complexity and depth of capital market) category of performance.

This is similar to national level performance of entrepreneurship ecosystem performance. According to 2019 GEI report Ethiopia better performs in individual pillar than institutional pillars.

Table 4.12. Individual and Institutional Pillars Entrepreneurship Ecosystem Performance of Gurage Zone

	Pillars		Institutional Variables		Individual Variables	
Entrepreneurial Attitudes	Opportunity Perception	0.52	Freedom and Property	0.28	Opportunity Recognition	0.42
	Start-up Skills	0.17	Education	0.047	Skill Perception	0.83
	Risk Acceptance	0.09	Country Risk	0.07	Risk Perception	0.30
	Networking	0.29	Connectivity	0.093	Know Entrepreneurs	0.70
	Cultural Support	1	Corruption	0.35	Career Status	0.65
	Entrepreneurial Attitudes	30.93				
Entrepreneurial abilities	Opportunity Start-up	0.23	Tax govern	0.36	Opportunity Motivation	0.14
	Technology Absorption	0.12	Tech Absorption	0.30	Technology Level	0.93
	Human Capital	0.16	Labour Market	0.19	Educational Level	0.20
	Competition	0.05	Competitiveness and regulation	0.13	Competitors	0.097
	Entrepreneurial Abilities	13				
Entrepreneurial Aspirations	Product Innovation	0.33	Technology	0.18	New Product	0.41
	Process Innovation	0.09	Science	0.12	New Technology	0.17
	High Growth	0.008	Finance and Strategy	0.19	Gazelle	0.01
	Internationalization	0.006	Economic complexity	0.009	Export	0.17
	Risk Capital	0.008	Depth of Capital Market	0.05	Informal Investment	0.04
	Entrepreneurial Aspirations	17.28				
	GEI	17.3	Institutional	0.17	Individual	0.3

Sources: Own Survey (2023)

4.6.4. The 3AS

Entrepreneurship ecosystem is build up by three important sub- indices blocks. These are entrepreneurial attitudes (ATT), entrepreneurial abilities (ABT), and entrepreneurial aspirations (ASP). The value of a sub-index for any country is the arithmetic average of its PFB-adjusted pillars for that sub-index multiplied by a 100 (Eq. 7a, 8b and 8c). The maximum value of the sub-indices is 100 and the potential minimum is 0, both of which reflect the relative position of a system in a particular sub-index (Szerb, et al., 2018) (Zoltán , László , & Ainsley, 2017). Accordingly, the result of the 3As of Gurage Zone is shown on table 4.2

From the three sub-indices, Gurage Zone performs better on entrepreneurial attitude where cultural support of 100% and opportunity perception of 53% are recoded. Entrepreneurial attitudes measures the population's feeling of recognizing opportunities, knowing entrepreneurs personally, endowing entrepreneurs with high status, accepting the risks associated with business start-ups, and having the skills to launch a business effectively.

Next to entrepreneurial attitude, the performance area of the Zone is abilities sub index. It measures the entrepreneurs' characteristics and those of their businesses within the realm of new business efforts.

The worst performance area of the Zone is aspiration sub-index. Entrepreneurial aspiration is defined as the early-stage entrepreneur's effort to introduce new products and/or services, develop new production processes, penetrate foreign markets, substantially increase their company's staff, and finance their business with formal and/or informal venture capital. Product and process innovation, internationalization, and high growth are considered the key characteristics of entrepreneurship. Here a finance variable is added to capture the informal and formal venture capital potential that is vital for innovative start-ups and high-growth firms.

Each of these three building blocks of entrepreneurship influences the other two. For example, entrepreneurial attitudes influence entrepreneurial abilities and entrepreneurial aspirations, while entrepreneurial aspirations and abilities also influence entrepreneurial attitudes.

Table 4.13. The 3As

3As	Score
Attitudes Sub Index	30.93
Abilities Sub Index	13.04
Aspiration Sub Index	7.863

Sources: Own Survey (2023)

4.6.5. The Penalty for Bottleneck

The Penalty for Bottleneck (PFB) methodology was used to create pillar-normalized PFB values. A bottleneck is defined as the worst performing link or a binding constraint in a particular system of entrepreneurship. Here, bottleneck means a shortage or the lowest level of a particular pillar, relative to other pillars. This notion of a bottleneck is important for policy purposes. It suggests that pillars interact; if they are out of balance, entrepreneurship is inhibited. The pillar values should be adjusted in a way that takes into account this notion of balance. This put on the notion of a bottleneck; if the weakest pillar were improved, the whole system or GEI would show a significant improvement.

> *By applying the Penalty for Bottleneck approach, the GEI methodology captures the notion that systems, by definition, comprise multiple components, and that these components co-produce system performance. These are defining characteristics of any system, which simple summative indices fail to capture. In a simple summative index, each system component contributes directly and independently to system performance. In the context of entrepreneurship, this would mean, for example, that a national measure of education would, directly and independent of other system components, contribute to "national entrepreneurship," while in reality we know that education cannot contribute much to a country's entrepreneurial performance if individuals fail to act. On the other hand, if education were absent, the economic potential of entrepreneurial entries would be severely constrained. Moreover, even if both education and agency were present, country-level entrepreneurial performance would be constrained if, for example, growth aspirations were missing or if there were no financial resources available to feed the growth of new ventures. A simple summative index would fail to recognize such interactions, thereby ignoring crucial aspects of system-level performance* (Szerb, et al., 2018).

According to table 4.1, the maximum penalty is 0.006. Gurage Zone bottle neck pillar is internationalization with average normalized value of 0.006, which is the weakest pillar of

the system. The bottleneck pillar is not penalized since there is no any lower score than its score. The second lowest pillar is “risk capital” with 0.00830 score.

From the system perspective Gurage Zone cannot fully capitalize from the higher “risk capital” performance since the bottleneck pillar is holding back. The size of the penalty is 1.77715E-06, around 0.21%. Gurage Zone’s best pillar is “cultural support” its score is one (1).Since the difference between the bottleneck “internationalization” pillar and “cultural support” is larger than between “internationalization” and “risk capital”, the size of penalty is higher both in absolute value and proportionally, resulting 0.364(36.38%) of penalty. All the other penalties are between these two extremes. On the average, Gurage Zone is losing 8.89% of its entrepreneurial resources because of the imbalances in its system of entrepreneurship.

4.6.6. Policy Implication of the PFB methodology

First, the different pillars cannot be fully substituted with each other. In other words, the performance of the better performing pillar just only partially compensates for the bad performance of the bottleneck pillar. Second, the overall GEI index score can be improved the most by increasing the bottleneck pillar. The magnitude of the enhancement depends on the relative size of the bottleneck as compared to the rest pillars. Third, for policy makers it means that the enhancement of the worst performing bottleneck pillar is the most important priority for entrepreneurship policy (Szerb, et al., The Global Entrepreneurship Index (GEI) –European dataset, 2018).

4.6.7. The Comparison between Ethiopia and Gurage Zone

Table 4.14. The Comparison between GEI Score of Ethiopia and Gurage Zone

	PILLARS			INSTITUTIONAL VARIABLES			INDIVIDUAL VARIABLES		
		Ethio[3]	GZ[4]		Ethio	GZ		Ethio	GZ
Entrepreneurial Attitudes	Opportunity Perception	0.34	0.52	Market Agglomeration	0.30	0.28	Opportunity Recognition	0.94	0.42
	Start-up Skills	0.06	0.17	Tertiary Education	0.13	0.047	Skill Perception	0.88	0.83
	Risk Acceptance	0.02	0.09	Business Risk	0.03	0.07	Risk Perception	0.64	0.30
	Networking	0.10	0.29	Internet Usage	0.12	0.093	Know Entrepreneurs	0.88	0.70
	Cultural Support	0.30	1	Corruption	0.37	0.35	Career Status	1.00	0.65
	Entrepreneurial Attitudes	14.54	30.93						
Entrepreneurial Abilities	Opportunity Start-up	0.36	0.23	Economic Freedom	0.48	0.36	Opportunity Motivation	0.79	0.14
	Technology Absorption	0.09	0.12	Tech Absorption	0.26	0.30	Technology Level	0.27	0.93
	Human Capital	0.20	0.16	Staff Training	0.45	0.19	Educational Level	0.34	0.20
	Competition	0.39	0.05	Market Dominance	0.47	0.13	Competitors	0.73	0.097
	Entrepreneurial Abilities	22.74	13						
Entrepreneurial Aspirations	Product Innovation	0.12	0.33	Technology Transfer	0.46	0.18	New Product	0.34	0.41
	Process Innovation	0.50	0.09	GERD	0.50	0.12	New Tech	1.00	0.17
	High Growth	0.23	0.008	Business Strategy	0.43	0.19	Gazelle	0.44	0.01
	Internationalisation	0.02	0.006	Globalization	0.16	0.009	Export	0.11	0.17
	Risk Capital		0.008	Depth of Capital Market	0.04	0.05	Informal Investment	0.33	0.04
	Entrepreneurial Aspirations	16.06	17.28						
	GEI	17.78	17.3	Institutional	0.30	0.17	Individual	0.62	0.3

Sources: Own Survey (2023) and International Entrepreneurship Development Data (2023)

[3] GEI score of Ethiopia is obtain from International Entrepreneurship Development Data | GEDI (thegedi.org). It is 2023 score.

[4] GEI scor of Gurage Zone based on own calculation

When we see the general score of entrepreneurship ecosystem of Gurage Zone and Ethiopia, it is 17.3 and 17.78 respectively. The national level score is a bite more that the Gurage Zone's score. Regarding the institutional pillar Gurage Zone scored 0.17 while the national level score is 0.30. Individual pillar score of Gurage Zone is 0.3 and the national level score is 0.62. In both institutional and individual pillar the local level score is about 50% less than the national level score. Among the three sub pillars the score of attitude, ability and aspiration are 30.93, 13 and 17.28 at local level and are 14.54, 22.74 and 16.06 at national level respectively. Here in attitude score the local level score is 50% more than the national level, in ability sub score, the local level score is 9.74 less than the national level and in aspiration almost both are equal. But it is important to bear in mind two main points. First, the national level score is computed by using the best scores of different countries in the world at different periods of time as a bench mark. But the local level score is computed by using a single time data of the study area only. Second, to calculate the local level score, I used the national level values for some variables like research expenditure, economic complexity and depths of economy and risk. Thus there is expected difference in that the national level scores to be low. Despite this reality, except on some area the national level score exceeds the local level score. In other word the local level score of Gurage Zone is below the average score at national level.

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Summary of Key Findings

Through the process it is identified that individual and institutional factors play significant role in shaping individuals entrepreneurial initiatives. Accordingly, individual variables including opportunity perception, knowing entrepreneurs, career choice, attaching high status, opportunity motivation and job created and job expected and institutional variables like property right, education right, infrastructure, corruption, good governance, staff training, regulation and availability of venture capital variables of entrepreneurship ecosystem are significantly associated with entrepreneurship initiatives. Thus the two specific objectives are well addressed and disclosed that individual and environmental factors play significant role in shaping the individuals' entrepreneurial initiatives.

Based on the GEI method analysis entrepreneurial ecosystem as a systemic interaction of different components, not only affect the individuals' initiatives for entrepreneurship. But also each component affects the performance of the other components in the system. Thus it is important to be curious for the systemic interaction of elements in entrepreneurial ecosystem and the roles on individual initiatives.

Besides, the strength area of the entrepreneurial ecosystem of Gurage Zone is cultural support. This pillar is all about the inhabitants' perception toward those who choose entrepreneurial activities as a best option and successful in the process. Accordingly, the society in the study area gives credit and respect for those who preferred entrepreneurial activities as a career choice and give high status to those who are successful in their engagement. In other word the cultural environment is supportive for entrepreneurial activities. The institutional dimension of this pillar measures the public perception toward corruption in the public services. The result revealed that the public perception toward corruption in public sector is high. This affected negatively the better cultural support of the public. In the long run this may twist the initiatives of individual entrepreneurs and the supportive perception of the society toward entrepreneurs.

Also it is identified that the weakest area of the entrepreneurial ecosystem of the study area internationalization. The individual dimension of this pillar measures export levels of entrepreneurs and the intuitional dimension measures the economic complexity or different knowledge embedded in the economy. It is identified that most of the entrepreneurs in the

study area don't export their product or they don't have customers abroad. Furthermore the economic system at large lacks embedding diversified knowledge that can assist in the entrepreneurial development of the ecosystem. Thus, the internationalization pillar is the bottle neck of the entrepreneurial ecosystem of the study area.

Among the three sub index of the ecosystem, the attitude sub index is the best performing index with the score of 30.93 and the least performing sub index is the aspiration sub index with the score of 7.863.

5.2. Conclusion

With some limitation the study contributed for knowledge in different aspects. First, unlike previous researches mostly that focused on individual or institutional factors separately, this research combined the individual and environmental factors of entrepreneurial ecosystem to investigate the performance of the system and its sub part interaction. Furthermore this research integrated the quality and quantity aspects of entrepreneurship. If some limitations in the process of adoption of the approach for local level investigation are addressed in the future, this attempt pave way for better development of local and national level entrepreneurial ecosystem measurement tool.

Second, in the process of the research different questionnaires were adopted for local level assessment. With some modification the questionnaires can assist other researchers to conduct research on the area. Finally, the research result can be a good knowledge input for the local government as well as federal government particularly those sectors who are working on the area of entrepreneurship.

5.3. Recommendations

The researcher used the GEI calculation method. However, it is rarely recommended to use the method to calculate local level entrepreneurial ecosystem calculation, the researcher used the method with its limitation for local level since the other method are mostly qualitative assessment and don't consider both individual and institutional factors and their systemic interaction. Even it seems difficult; the researcher tried to apply the method with a certain limitation. Thus the researcher recommends that the method may contribute a lot if it is cascaded in more well organized manner by teams of expert. Accordingly, as an economic system, we can develop our own national and regional level entrepreneurial ecosystem analysis framework.

As the result showed the performance of entrepreneurial ecosystem of Gurage Zone is below national level score. Between the individual and the institutional factors of the system, the institutional pillar is performing at lowest level. Thus it is important to work on institutional reform, infrastructure development, creating international partnership development, venture capital accessibility, human right protection and the like. Even the individual pillar is performing better, however it needs planned intervention. There has to be sufficient entrepreneurial training on the area of entrepreneurial attitude, skill and development.

Based on system perspective a dysfunction of an organ of a system affects the performance of the whole system. Similarly, in the entrepreneurial ecosystem of the study area the bottleneck for the system is internationalization. Unless efforts are put to improve the bottleneck, the performance of the system cannot be improved. Thus the local government has to work on creating export supportive conditions, diversified knowledge sharing platforms and the like.

Finally, from the three sub index, the aspiration sub index is the least performing index (7.83). That means the efforts of early business start-up to create new business idea is very low or they are not striving to add value in the system. Despite better performance on cultural support toward entrepreneurs exhibited in the study area the efforts to add quality in the system is very low. To bring improvement on this aspect it is important to deliver motivational training on individuals' potential, running different entrepreneurial contest, conducting research and organizing different seminar, funding innovative researches and the like.

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APPENDIX A:

WOLKITE UNIVERSITY

FACULTY OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMENT

MBA PROGRAM

The English Version of Questionnaires

1. Sex 1 = Male 2 =Female
2. Age _____
3. Ethnicity 1 = Gurage 2= Amhara 3 = Oromo 4 = others
4. Religion 1 = Orthodox 2 = Protestant 3 = Muslim 4 = Catholic 5 = others
5. Marriage Status 1 = Married 2 = Single 3 = Divorced 4 = Widowed
6. Academic Status 1 = illiterate 2 = primary 3 = secondary 4= preparatory/TVET 5= Diploma 6 = Degree and above
7. In the next six months, will there be good opportunities for starting a business in the area where you live?
   1 = yes 2 = no
8. Do you have the knowledge, skill and experience required to start a new business?
   1 = yes 2 = no
9. Would fear of failure would prevent you from starting a business?
   1 = yes 2 = no
10. Do you know someone personally who started a business in the past 2 years?
    1 = yes 2 = no
11. In your area, most people consider starting a new business a desirable career choice.
    1 = yes 2 = no
12. In your area, those successful at starting a new business have a high level of status and respect.
    1 = yes 2 = no
13. Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?
    1 = yes 2 = no
14. Are you involved in this start-up to take advantage of a business opportunity or because you have no better choices for work?
    1 = Take advantage of business opportunity

2 = No better choices for work

3 = Combination of both of the above

4 = Have a job but seek better opportunities

5 = others

15. How much your business active in technology sectors?

1 = High 2 = Medium 3 = Low

16. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?

1 = Many 2 = Few 3 = No

17. Do all, some, or none of your potential customers consider this product or service new and unfamiliar?

1 = All 2 = Some 3 = None

18. How long have the technologies or procedures used for this product or service been available? (in year)

1 = > 5 2 = 1-5 3 = < 1

19. Not counting the owners, how many people are currently working for this business? _____

20. Not counting owners, how many people will be working for this business five years from now? __

21. EEA: What percentage of your annual sales revenues for this project will usually come from customers living outside your country? (in %)

1 = >90 4 = 26 -50

2 = 76-90 5 = 11-25%

3 = 51 -75 6 = 10% or <

22. Have you, in the past three years, personally provided funds for a new business started by someone else, excluding any purchases of stocks or mutual funds?

1= Yes 2= No

23. Approximately how much, in total, have you personally provided to these business start-ups in the past three years, not counting investments in publicly traded stocks or mutual funds? ___

24. In your city, how do you evaluate easiness of regulation/producers related with trade license, accounting reporting and the like

1 = extremely difficult 3 = difficult

2 = Very difficult 4 = fair

5 = easy
6 = very easy
7 = excellent

25. In your city, to what extent are property rights, including financial assets, protected?"

1 = not at all
2 = low
3 = slightly
4 = Neutral
5 = moderately
6 = very good

26. In your city, how do you assess the quality of math and science education?

1 = extremely poor
2 = Very poor
3 = poor
4 = fair
5 = good
6 = very good
7 = excellent

27. How do you assess the general state of infrastructure (e.g., transport, communications, and energy) in your city?

1 = extremely underdeveloped
2 = very underdeveloped
3 = under developed
4 = fair
5 = developed
6 = very developed
7 = extensive and efficient

28. In your city, how reliable is the electricity supply (lack of interruptions and lack of voltage fluctuations)?

1 = extremely unreliable
2 = very unreliable
3 = unreliable
4 = fair
5 = reliable
6 = very reliable
7 = extremely reliable

29. In your city, how do you weight risk related to population exposed to unsafe drinking water

1 = very high
2 = very low

30. In your country, how reliable is the water supply (lack of interruptions and flow fluctuations)?

1 = extremely unreliable
2 = very unreliable
3 = unreliable
4 = fair
5 = reliable
6 = very reliable
7 = extremely reliable

31. The accountability of the executive to oversight institutions and of public employees for their performance

1 = extremely weak
2 = very weak

3 = weak
4 = weak
5 = very strong
6 = extremely strong

32. Access of civil society to information on public affairs

1= extremely weak
2 = very weak
4 = weak
5 = strong
5 = very strong
6 = extremely strong

33. State capture by narrow vested interests

1 = extremely weak
2 = very weak
3 = weak
4 = strong
5 = very strong
6 = extremely strong

34. Public administration effectiveness in terms of quality, competency, com

1 = very high
2 = high
3 = fair
4 = low
5 = very low

35. The quality of the civil service and the degree of its independence from political pressures

1 = very high
2 = high
3 = fair
4 = low
5 = very low

36. The quality of policy formulation and implementation

1 = very high
2 = high
3 = fair
4 = low
5 = very low

37. The credibility of the government's commitment to such policies.

1 = very high
2 = high
3 = fair
4 = low
5 = very low

38. Companies in your country are to absorb new technology

1 = extremely low
2 = very low
3 = low
4 = fair
5 = high
6 = very high

39. To what extent do companies in your city invest in training and employee development?

1 = hardly at all
2 = very low
3 = low
4 = moderate
5 = high
6 = very high

40. The practice of advance notice requirements and severance payments due when terminating a redundant worker, expressed in weeks of salary in your area.

1 = not at all
2 = very low
3 = low
4 = moderate
5 = to some extent
6 = to great extent
7 = to very great extent

41. In your city, to what extent do regulations allow for the flexible hiring and firing of workers?

1 = not at all
2 = very low
3 = low
4 = moderate
5 = to some extent
6 = to great extent
7 = to very great extent

42. In your city, how are wages generally set? = not at all

1 = very low
2 = low
3 = moderate
4 = to some extent
5 = to great extent
6 = to very great extent

43. In your country/city, how effective are anti-monopoly policies at ensuring fair competition? =

1 = not effective at all
2 = very ineffective
3 = fairly ineffective
4 = effective
5 = fairly effective
6 = very effective
7 = extremely effective

44. Corporate activity in your country is

1 = dominated by a few business groups
2 = dominated by few business groups
3 = dominated by single business groups
4 = fairly distributed
5 = distributed among some business groups
6 = distributed among many business

45. In your country/city, how do you assess the quality of scientific research institutions?

1 = extremely poor
2 = very poor
3 = poor
4 = fair
5 = good
6 = very good
7 = extremely good

46. In your country/city, to what extent are scientists and engineers available?

1 = not at all
2 = very low

3 = low
4 = moderate
5 = to some extent
6 = to great extent
7 = to very great extent

47. In your country city, how easy is it for start-up entrepreneurs with innovative but risky projects to obtain equity funding? = not at all

1 = extremely difficult
2 = very difficult
3 = difficult
4 = fairly difficult
5 = ease
6 = very easy
7 = extremely easy

48. In your country/city, to what extent do companies embrace risky or disruptive business ideas?

1 = not at all
2 = very low
3 = low
4 = moderate
5 = to some extent
6 = to great extent
7 = to very great extent

Appendix B:

Amharic Version of the Questionnaires

1. ጾታ 1 = ወንድ 2 = ሴት
2. እደሜ --------
3. ብሄር 1 = ጉራጌ 2 = አማራ 3 = ኦሮሞ 4 = ሌሎች
4. ሃይማኖት

   1 = ኦርቶዶክስ 4 = ካቶሊክ

   2 = ፕሮቴስታንት 5 = ሌላ ካለ ይጥቀሱ

   3 = ሙስሊም
5. የጋብቻ ሁኔታ

   1 = ያገባ 3 = ፈት

   2 = ያላገባ 4 = ፈት (በሞት ምክንያት)
6. የት/ት ደረጃ

   1 = የትምህርት ዕድል ያላገኘ 4 = 11-12ኛ/ቴክኒክና ሙያ

   2 = 1-8ኛ ክፍል 5 = ዲፕሎማ

   3 = 9-10ኛ ክፍል 6 = ዲግሪና ከዚያ በላይ
7. በሚኖሩበት አካባቢ በቀጣይ ስድስት ወራት ውስጥ የተሻለ/መልካም የስራ/የንግድ እድል ይኖራል ብለው ያምናሉን?

   1 = አዎ 2 = የለም
8. አዲስ ስራ ለመጀመር እውቀት፣ ክህሎትና ልምድ አለኝ ብለው ያምናሉን?

   1 = አዎ 2 = የለም
9. እከስራለሁ የሚል ስጋት አዲስ ስራ/ንግድ እንዳይጀምሩ አድርጎታልን?

   1 = አዎ 2 = የለም
10. ባለፉት ሁለት አመታት ውስጥ አዲስ ስራ (ንግድ) የጀመረ የሚያውቁት ሰው አለን?

    1 = አዎ 2 = የለም
11. በሚኖሩበት አካባቢ አብዛኛው ሰው አዲስ ስራ/ንግድ/የፈጠራ ንግድ መጀመር የተሻለ የስራ አማራጭ ነው ብሎ ይወስዳልን?

    1 = አዎ 2 = የለም
12. በሚኖሩበት አካባቢ አዲስ ስራ በመጀመር ስኬታማ የሆኑ ሰዎች ከፍ ያለ ደረጃና ክብር ይሰጣቸዋልን?

    1 = አዎ 2 = የለም
13. ብቻዎትም ሆነው ወይም ከሌላ ሰው ጋር በአሁን ሰአት አዲስ ስራ ለመጀመር ሞክረው ያውቃሉን?

1 = አዎ 2 = አይ

14. የጥያቄ ቁጥር 13 መልሶ አዎ ከሆነ በዚህ ስራ/ንግድ ለመሰማራት ያነሳሳዎት ለስራ የተፈጠረን መልካም እድል ለመጠቀም ነው ወይስ አማራጭ ስላጡ?

    1= የተፈጠረ የስራ እድልን ለመጠቀም

    2 = ሌላ የስራ አማራጭ ስለሌለኝ

    3 = 1 እና 2

    4 = ስራ አለኝ ግን የተሻለ ስራ ስለምፈልግ

    5 = ሌላ ምክንያት

15. የጥያቄ ቁጥር 13 መልሶ አዎ ከሆነ የሚጀመሩት ስራ ከቴክኖሎጂ ጋር ተያያዥነቱ እንዴት ይገልጹታል

    1 = ከፍተኛ 2 = መካከለኛ 3 = ዝቅተኛ

16. የጥያቄ ቁጥር 13 መልሶ አዎ ከሆነ ልክ በአሁን ሰአት እርሶ የሚያቀርቡት አይነት እቃ ወይም አገልግሎት ለእርሶ ደንበኞች የሚያቀርቡ ሌሎች ድርጅቶች ምንያህል ናቸው

    1= ብዙ 2 = ጥቂት 3 = ምንም የለም

17. የጥያቄ ቁጥር 13 መልሶ አዎ ከሆነ ስንት ደምበኞችዎን ኖቸው እርሶ የሚያቀርቡሎት እቃ ወይም አገልግሎት አዲስ ወይም ያልተለመደ ነው የሚሉት

    1 = ሙሉውን 2 = ከፊሉን 3 = ምንም የለም

18. የጥያቄ ቁጥር 13 መልሶ አዎ ከሆነ ለድርጅቶ አዲስ ቴክኖሎጂ ወይም መመሪያ አቅርቦት ለምንያክል ጊዜ ተጠቅመዋል (በአመት)

    1 = ከአንድ ያነሰ

    2 = ከ1-5

    3 = ከ5 አመት በላይ

19. የጥያቄ ቁጥር 13 መልሶ አዎ ከሆነ የድርጅቱ ባለቤት ሳይቆጠሩ ለድርጅቱ የሚሰሩ ሰራተኞች ቁጥር ስንት ናቸው?

    _____

20. የጥያቄ ቁጥር 13 መልሶ አዎበ ከሆነ የድርጅቱ ባለቤት ሳይቆጠሩ በቀጣይ አምስት አመታት ለድርጅቱ የሚሰሩ ሰራተኞች ቁጥር ስንት ይሆናሉ? _____

21. የጥያቄ ቁጥር 13 መልሶ አዎ ከሆነ ከአመታዊ የሽያጭ ገቢ ምንያህሉን ፐርሰንት ውጪ አገር ከሚኖር ደንበኛ/ከውጭ አገር ዜጋ ያገኛሉ

    1 = ከ90% በላይ 5 = ከ11 - 25%

    2 = ከ76 - 90% 6 = ከ10% በታች

    3 = ከ51 - 75% 7 = ምንም

    4 = ከ26 - 50%

22. ባለፉት ሶስት አመታት ውስጥ አዲስ ለተጀመረ ስራ ፈንድ/ገንዘብ አቅረበዋልን/አበድረዋልን?

1 = አዎ 2 = የለም

23. ባለፉት ሶስት አመታት ውስጥ አዲስ ለተጀመረ ስራ በአማካይ ምንያክል ፈንድ/ገንዘብ አቅረበዋልን/አበድረዋልን?

_____

24. በሚኖሩበት ከተማ ውስጥ ያሉ የህግ አሰራሮች/መመሪያዎች የንግድ ድርጅቶች ፈጽመው/ተገዝተው ለማለፍ ያለው ጫና እንዴት ይገልጹታል (ለምሳሌ የንግድ ፈቃድ፣ መመሪያዎችና የመዝገብ ሪፖርት አቀራረብ)

1 = እጅግ በጣም አስቸጋሪ 5 = ምቹ

2 = በጣም አስቸጋሪ 6 = በጣም ምቹ

3 = አስቸጋሪ 7 = እጅግ በጣም ምቹ

4 = ፍትሃዊ

25. በከተማዎ ንብረት የማፍራት እና የማስተዳደር ነጻነት ቋሚ ንብረትን ጨምሮ በምን ያህል ደረጃ ይከበራል?

1 = በፍጹም 4 = ተመጣጣኝ 7 = በከፈተኛ ደረጃ

2 = ዝቅተኛ 5 = ጥሩ

3 = በመጠኑ 6 = በጣም ጥሩ

26. በከተማዎ የሒሳብ እና ሳይንስ ትምህርት ጥራት እንዴት ይገመግሙታል?

1 = በከፍተኛ ደረጃ ዝቅተኛ 5 = ጥሩ

2 = በጣም ዝቅተኛ 6 = በጣም ጥሩ

3 = ዝቅተኛ 7 = እጅግ በጣም ጥሩ

4 = ተመጣጣኝ

27. አጠቃላይ በከተማዎ የመሰረተ ልማት ደረጃን እንዴት ይገመገማል? ለምሳሌ መጓጓዣ፣ ኮሙዩኒኬሽን እና ነዳጅ

1 = እጅግ በጣም ያላደገ 5 = ጥሩ

2 = በጣም ያላደገ 6 = እጅግ በጣም ጥሩ

3 = ዝቅተኛ 7 = ፍጹም የጠዋጣለት

4 = ተመጣጣኝ

28. በከተማዎ የመብራትአቀርቦት በምን ደረጃ አስተማማኝ ነው? የኃይል መቆራረጥ እና ወጣ ገባነት ስለመኖሩ

1 = በፍፁም የማያስተማምን 5 = የሚያስተማምን

2 = በጣም የማያስተማምን 6 = በጣም የሚያስተማን

3 = የማያስተማምን 7 = ፍፁም የሚያስተማምን

4 = ተመጣጣኝ

29. በሚኖሩበት አካባቢ ንጽህናው ከላጠበቀ ውሃ ጋር ተያይዞ ህዝቡ ያለው የአደጋ ተጋላጭነት እንዴት ያዩታል/ይመዝኑታል?

1 = በጣም ዝቅተኛ 2 = በጣም ከፍተኛ

30. በከተማዎ የውኃ አቅርቦት አስተማማኝ ነውን (ያለመቋረጥ እና ያለመቀያየር ደረጃውስ?)

1 = በፍፁም የማያስተማምን
2 = በጣም የማያስተማምን
3 = የማያስተማምን
4 = ተመጣጣኝ
5 = የሚያስተማምን
6 = በጣም የሚያስተማን
7 = ፍፁም የሚያስተማምን

31. ተቋማትን የሚያስተዳድሩ ፈጻሚዎች ተጠያቂነት እና የመንግስት ተቀጣሪዎች አፈጻጸምን በተመለከተ

1 = እጅግ በጣም ደካማ
2 = በጣም ደካማ
3 = ደካማ
4 = ጠንካራ
5 = በጣም ጠንካ
6 = እጅግ በጣም ጠንካራ

32. በህዝብ አስተዳደር ጉዳዮች ላይ ለሲቪል ማህበረሰቡ የሚሰጡ መረጃዎች እንዴት ይገልጹታል?

1 = እጅግ በጣም ዝቅተኛ
2 = በጣም ዝቅተኛ
3 = ዝቅተኛ
4 = ከፍተኛ
5 = በጣም ከፍተኛ
6 = እጅግ በጣም ከፍተኛ

33. በአካባቢዎ የህዝብ ጥቅም በጥቂት ሰዎች እጅ የመግባ ሁኔታ

1 = እጅግ በጣም ደካማ
2 = በጣም ደካማ
3 = ደካማ
4 = ጠንካራ
5 = በጣም ጠንካ
6 = እጅግ በጣም ጠንካራ

34. የህዝብ አስተዳደር የጥራት ደረጃ ከአጠቃላይ ብቃት/ስልጠና፣ስነ-ምግባር/መሰጠት/ታማኝነት እና ውጤታማነት/ደረጃ አንጻር

1 = በጣም ከፍተኛ
2 = ከፍተኛ
3 = ተመጣጣኝ
4 = ዝቅተኛ
5 = በጣም ዝቅተኛ

35. የህዝብ አገልግሎት የጥራት ደረጃ እና ከፖለቲካ ጫና ነጻ መሆን

1 = በጣም ከፍተኛ
2 = ከፍተኛ
3 = ተመጣጣኝ
4 = ዝቅተኛ
5 = በጣም ዝቅተኛ

36. በአሉበት አገር/ከተማ መንግሰት ፖሊሲ የማውጣት እና የመተግበር አቅሙ እንዴት ያዩታል?

1 = በጣም ከፍተኛ
2 = ከፍተኛ
3 = ተመጣጣኝ
4 = ዝቅተኛ
5 = በጣም ዝቅተኛ

37. በፖሊሲዎቹ ዙሪያ የመንግስት የመፈጸም ታማኝነት

1 = በጣም ከፍተኛ
2 = ከፍተኛ
3 = ተመጣጣኝ
4 = ዝቅተኛ

5 = በጣም ዝቅተኛ

38. በአከባቢዎ ኩባንያዎች አዳዲስ ቴክኖሎጂ መጠቀምን አስመልክቶ ያለው ሁኔታ

1 = እጅግ በጣም አነስተኛ
2 = በጣም አነስተኛ
3 = አነስተኛ
4 = ተመጣጣኝ
5 = ከፍተኛ
6 = በጣም ከፍተኛ
7 = እጅግ በጣም ከፍተኛ
8 = አላውቅም

39. በምን ያህል ደረጃ ኩባንያዎች በአከባቢዎ/በከተማዎ በስልጠና ላይ ይሳተፋሉ እንዲሁም የተቀጣሪዎቹ እድገት ማሳደግ ይችላሉ

1 = እጅግ በጣም ዝቀተኛ
2 = በጣም ዝቅተኛ
3 = ዝቅተኛ
4 = መጠነኛ
5 = ከፍተኛ
6 = በጣም ከፍተኛ
7 = እጅግ በጣም ከፍተኛ

40. ተቀጥረው ለሚሰሩ የድሞዝ ጭማሪ መለኪያ ማሳወቂያ እና ተደጋጋሚ ሰራተኞች ስራዎቻቸውን በሚያቋርጡበት ጊዜ የሚያስፈለግ ተጨማሪ ክፍያዎች

1 = ፈጽሞ የለም
2 = በከፍተኛ ደረጃ የለም
3 = የለም
4 = ተመጣጣኝ ነው
5 = አለ
6 = በከፍተኛ ደረጃ አለ
7 = እጅግ በጣም በፈከፍተኛ ደረጃ አል

41. በከተማዎ የቅጥር ሁኔታ ህጎች ተለዋዋጭነት እና የሰራተኞች ስንብት በምን ያህል ደረጃ ይገለጻል?

1 = ፈጽሞ የለም
2 = በከፍተኛ ደረጃ የለም
3 = የለም
4 = ተመጣጣኝ ነው
5 = አለ
6 = በከፍተኛ ደረጃ አለ
7 = እጅግ በጣም በፈከፍተኛ ደረጃ አል

42. ባሉበት ከተማ የተቀጠረ ሰው ደመዘ አሰያየም/አመዳደብ በምን ሁኔታ ላይ ይገኛል?

1 = ፈጽሞ የለም
2 = በከፍተኛ ደረጃ የለም
3 = የለም
4 = ተመጣጣኝ ነው
5 = አለ
6 = በከፍተኛ ደረጃ አለ
7 = እጅግ በጣም በፈከፍተኛ ደረጃ አል

43. በአከባቢዎ ፍትሃዊ የንግድ ውድድር ለማረጋገጥ ንግድ በተወሰኑ ሰዎች ተጠቅልሎ እንዳይያዝ የሚከላከል ፖሊሲዎች ውጤታማነት እነዴት ይገመግሙታል?

1 = ከእነ አካቴው ውጠየታማ አይደለም፣
2 = በጣም ወጤታማ አይደለም
3 = በተወሰነ መልኩ ውጤታማ አይደለም
4 = ተመጣጣኝ ነው

5 = በተወሰነ ሁኔታ አዋጪ ነው

6 = በጣም አዋጪ ነው

7 = ፍጹማዊ በሆነ ሁኔታ አዋጪ ነው

44. በከተማዎ ያሉትን የንግድ ድርጅቶች/ፋብሪካዎች ስብጥር እንዴት ይገመግሙታል?

1 = እጅግ ውስን በሆኑ የስራ ዐይነቶች የበላይነት ይንጸባረቅበታል

2 = በጣም ውስን በሆኑ የስራ ዐይነቶች የበላይነት ይንጸባረቅበታል

3 = ውስን በሆኑ የስራ ዐይነቶች የበላይነት ይንጸባረቅበታል

4 = ፍትሃዊ ነው

5 = በብዙ የስራ ዐይነቶች የበላይነት ይንጸባረቅበታል

6 = በጣም ብዙ የስራ ዐይነቶች የበላይነት ይንጸባረቅበታል

7 = በእጅግ ብዙ ድርጅቶች የተሰራጨ ነው

45. በከተማዎ/አካባቢዎ ሳይንሳዊ የምርምር ተቋማት የጥራት ደረጃ በአለም ካሉት በምን ደረጃ ላይ ይገኛሉ?

1 = እጅግ በጣም ዝቅተኛ

2 = በጣም ዝቅተኛ

3 = ዝቅተኛ

4 = መጠነኛ

5 = ከፍተኛ

5 = በጣም ከፍተኛ

7 = እጅግ በጣም ከፍተኛ

8 = አላውቅም

46. በአካባቢዎ የሳይንቲስቶች እና ኢንጂነሮች ወይም የተማሩ ሰዎች መጠን ምን ይመስላል?

1 = እጅግ በጣም ዝቅተኛ

2 = በጣም ዝቅተኛ

3 = ዝቅተኛ

4 = ተመጣጣኝ

5 = ጥሩ

6 = በጣም ጥሩ

7 = እጅግ በጣም ጥሩ

47. በአካባቢው አዲስ ስራ ጀማሪዎች አዲስ የስራ ፈጠራ ነገር ግን የኪሳራ ስጋት ይኖርባቸዋል የሚባሉ ስራች ለመጀመር ተመጣጣኝ ገንዘብ የማግኘት የቅለት ደረጃው ምን ያህል ነው?

1 = እጅግ በጣም አስቸጋሪ

2 = በጣም አስቸጋሪ

3 = አስቸጋሪ

4 = መጠነኛ

5 = ቀላል ነው

6 = በጣም ቀላል ነው

7 = እጅግ በጣም ቀላል ነው

48. በሃገሮ ኩባንያዎች የስራ ስጋት ደረጃ ቅነሳ አልያም የቢዝነስ ሃሳብ አጨናጋፊ የሆኑትን በምን ደረጃ መቀነስ ይችላሉ?

1 = በጭራሽ መቀነስ አይችሉም

2 = በጣም መቀነስ አይችሉም

3 = መቀነስ አይችሉም

4 = በመጠኑ መቀነስ አይችሉም

5 = መቀነስ ይችላሉ

6 = በጣም መቀነስ ይችላሉ

7 =በከፍተኛ ደረጃ መቀነስ ይችላሉ

Appendix C:

Questionnaires for secondary sources

Economic Freedom

1. Starting a business—procedures (number)	
2. Starting a business—time (days)	
3. Starting a business—cost (% of income per capita)	
4. Starting a business—minimum capital (% of income per capita)	
5. Obtaining a license—procedures (number)	
6. Obtaining a license—time (days)	
7. Obtaining a license—cost (% of income per capita)	
8. Closing a business—time (years);	
9. Closing a business—cost (% of estate);	
10. Closing a business—recovery rate (cents on the dollar);	

Taxation

11. Payments (number per year)
12. Time (hours per year)
13. Total tax and contribution rate (% of profit)

Urbanization:

14. Percentage of the population living in the urban area

Economic complexity

The complexity of an economy is related to the multiplicity of useful knowledge embedded in it.

Depth of Capital Market

The Depth of Capital Market is one of the six sub-indices of the Venture Capital and Private Equity index.