

UNDERSTANDING ENTREPRENEURIAL ECOSYSTEM IN THE MIDDLE EAST: INSIGHTS FROM ISENBERG'S MODEL

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ABSTRACT

This study seeks to understand the entrepreneurial ecosystem in the Kurdistan Region of Iraq (KRI) by applying Isenberg's model. Focused on six fundamental domains-policy, finance, culture, support, human capital, and markets-it aims to underscore their indispensability for genuine entrepreneurial ecosystem development. Employing Isenberg's model, this research conducts a descriptive exploration of the relationships between entrepreneurship and the identified domains. Utilizing a literature review approach, secondary sources such as academic papers, news articles, and relevant literature have been scrutinized, elucidating the intricate connections shaping entrepreneurial activity in KRI. The study reveals the close connection and influence of the six identified domains on entrepreneurial activity in KRI. However, it highlights the need for further research to determine the extent of this impact, suggesting potential gaps in current understanding. Identified obstacles to entrepreneurial growth in KRI, including insufficient government support, limited funding, and cultural barriers, necessitate targeted interventions. Recommendations encompass policy reforms, financial support amplification, cultural awareness initiatives, investment in support institutions, educational enhancements, and the creation of a conducive business environment. Implementing these recommendations is imperative for unlocking KRI's entrepreneurial potential, fostering economic growth, and catalyzing job creation and economic diversification. This research contributes to the existing literature by highlighting the pivotal role of collaborative efforts and role clarity among stakeholders in effective entrepreneurial ecosystem development, particularly in KRI. Recognizing the lack of alignment and coordination as potential contributors to challenges faced, the study sheds light on critical aspects that may impede or enhance entrepreneurial ecosystem success in the region.

KEYWORDS: Entrepreneurial Ecosystem, Isenberg's ecosystem model, KRI, Iraq.

JEL CLASSIFICATION: L26, O53, O17, Z13

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INTRODUCTION

In many countries, entrepreneurship plays an important role in the development process. The success of entrepreneurship is dependent not only on the entrepreneur but also on the functioning of the entrepreneurial ecosystem which refers to a network of actors that are interconnected through various links (Kézai & Szombathelyi, 2021; Wachira, 2022; Bhandari & Mohite, 2023). The term ecosystem was first used by Moore (1993) (Aryal, 2021) and is being used more and more in the area of technology management, innovation, and entrepreneurship (Morant-Martínez *et al.*, 2019).

In recent years, researchers and policymakers have been increasingly interested in a systemic approach to fostering entrepreneurship. This strategy involves a more in-depth analysis of the context and focuses on a number of factors that contribute to the success of entrepreneurship, such as networking, prioritization, building new institutional capacities and promoting collaboration among different

stakeholders. This inclusive perspective helps to reduce barriers and improve resource access, which strengthens the overall ecosystem (Khattab & Al-Magli, 2017).

While there is a growing interest in entrepreneurial ecosystems and their impact on national entrepreneurship, it is crucial to recognize the existing gaps in knowledge. Despite extensive discussions on elements such as leadership, culture, capital markets, and institutional factors within entrepreneurial ecosystems (Isenberg, 2010; Simatupang et al. 2015; Brown & Mason, 2017), the fundamental causes of the entrepreneurial ecosystem phenomenon remain elusive. As highlighted by Cao and Shi (2021), there is a limited understanding of what drives the entrepreneurial ecosystem phenomenon in both advanced and emerging economies. This assertion underscores the necessity for further research to unravel the intricate dynamics giving rise to entrepreneurial ecosystems, particularly in diverse economic landscapes. Addressing this knowledge gap is essential for developing comprehensive policies, structures, and programs that effectively support entrepreneurship, innovation, and sustainable employment growth within specific regions.

In the dynamic landscape of the Kurdistan Region of Iraq, terms such as entrepreneurship, innovation, creativity, ecosystems, coaching, mentorship, venture capital, incubators, and accelerators have gained popularity, treated with a sense of populism. This is evident in the increasing number of incubators and accelerators, sprouting across the region. However, underlying this apparent progress lies a critical challenge - a significant gap in communication and clarity regarding the roles of ecosystem stakeholders. Unlike thriving entrepreneurial ecosystems globally, the Kurdistan Region faces a deficiency hindering necessary coordination and shared understanding. This gap becomes a barrier to the region's entrepreneurial landscape, impeding startups and innovation. Effectively developing the entrepreneurial ecosystem demands active collaboration and a clear understanding of stakeholder roles. After thoroughly examining existing research, it's clear that there's a lack of studies exploring the entrepreneurial ecosystem of KRI. Specifically, there's a gap in understanding the cultural factors that influence entrepreneurial approaches in this area, which hasn't been explored much in academic research. Acknowledging the significant impact of various unique factors on entrepreneurial activities in KRI, this study aims to fill this gap through a detailed investigation into the specific factors that define the entrepreneurial landscape in KRI and how they affect local entrepreneurship. By doing so, this study not only contributes to the broader discussion on entrepreneurial ecosystems but also provides insights into the distinct challenges and opportunities faced by local entrepreneurs. Through this exploration, the research seeks to identify the main aspects of the entrepreneurial ecosystem and how these elements influence entrepreneurship.

This paper uses Isenberg's (2010) six categories of entrepreneurial ecosystems (policy, finance, culture, supports, human capital, and markets) to demonstrate why certain factors are necessary for the development of a true entrepreneurial ecosystem in KRI. Entrepreneurs can expand their businesses and eventually contribute to the national economy by comprehending the ecosystem's core principles.

To have a complete understanding of these topics, answers to questions regarding how to develop entrepreneurial ecosystems to support the region's future entrepreneurs are critical. Therefore, this study seeks answers to the following questions:

1. What are the key factors and primary policy elements that influence the creation of a true entrepreneurial ecosystem in KRI?
2. What types of support mechanisms are required to help entrepreneurs flourish in KRI?

Identifying the key factors and policy drivers that foster a true entrepreneurial ecosystem in KRI will help inform policymakers and stakeholders about what needs to be done to create a supportive ecosystem for entrepreneurs. This insight can inform effective policies and regulations to promote

entrepreneurship and economic development. Additionally, examining the impact of access-based support systems, such as mentorship, incubators, and finance, on business ventures in KRI can help overcome obstacles faced by entrepreneurs and enable them to succeed in their ventures.

The following is the paper's format. After the brief introduction, the literature review and theoretical background of the entrepreneurship ecosystem concept are presented. This section discusses the components of the chosen entrepreneurial ecosystem models (Gnyawali & Fogel, 1994; Isenberg, 2010; Greene *et al.*, 2010; Stam, 2015). Section three explains Isenberg's six domains of application of the entrepreneurial model to KRI. The concluding remarks, limitations, and summary of the paper are given under the conclusion and future challenges. The final section provides specific recommendations for policymakers and stakeholders based on the study's insights.

1 LITERATURE REVIEW

In recent decades, the concept of entrepreneurial ecosystems has garnered increased attention, signifying a shift from individual-centric perspectives to a broader community understanding. This transformation in entrepreneurship studies, as emphasized by Stam and van de Ven (2021), underscores a comprehensive perspective that recognizes the influence of social, cultural, and economic factors on the entrepreneurial process. This evolution aligns with the acknowledgment that the growth of entrepreneurship within a nation is shaped not only by individual characteristics but also by culturally shared values and regulatory frameworks. Despite the growing attention to entrepreneurial ecosystems, research in this area has been predominantly atheoretical and static, particularly focusing on advanced economies. Additionally, as noted by Cao & Shi (2021), there is limited understanding of the causes of the entrepreneurial ecosystem phenomenon in both advanced and emerging economies.

The word "ecosystem" has been adopted from other sciences as a metaphor to describe a system made up of several pieces that are tightly interrelated (Ceresia & Mendola, 2019). The potential of integrated policies, structures, programs, and processes that support entrepreneurship in a region and can support innovation, employment growth, and productivity has begun to be recognized by governments, private businesses, universities, and communities (Morant-Martínez *et al.*, 2019). Therefore, fostering an environment that will support innovation, the creation of profitable new businesses, and the resulting sustainable increase in employment in a specific location is the key objective of an entrepreneurial ecosystem (Morant-Martínez *et al.*, 2019).

Even though several researchers agree that an entrepreneurial ecosystem has many actors that interact in a way that creates value, there isn't currently a universally accepted definition for this concept. According to Isenberg (2010), the entrepreneurship ecosystem consists of "*a set of individual elements such as leadership, culture, capital markets, and open-minded customers that combine in complex ways*" (Isenberg, 2010, p. 4). Simatupang *et al.* (2015) in Morant-Martínez *et al.* (2019) further defined entrepreneurship ecosystems as "*the fundamental idea of an entrepreneurship ecosystem is to create a conducive environment to support innovation, the formation of new successful firms and corresponding sustainable employment growth within a specific geographic region*".

According to Mason & Brown (2013:5 cited in Khattab and Al-Maghi, 2017), "a set of interconnected entrepreneurial actors (potential and existing), entrepreneurial organizations (firms, venture capitalists, business agents, banks), institutions (universities, public sector agencies, financial bodies), and entrepreneurial processes (the business birth rate, numbers of high growth firms, the number of serial entrepreneurs, and the degree of sell-out mentality with which entrepreneurs operate) are collectively referred to as an entrepreneurial ecosystem."

Stam's (2015) description of entrepreneurial ecosystems is “*a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory*”. Stam (2015) distinguished between systemic conditions (networks of entrepreneurs, leadership, finance, talent, knowledge, and support services), which are specifically related to the start-up process, and framework conditions (formal institutions, informal institutions, such as entrepreneurial culture), which are linked to the value creation process within entrepreneurial ecosystems (Ceresia & Mendola, 2019). An entrepreneurial ecosystem is a complex system of interaction between individuals and entities or groups within the context of information, institutions, and economics (Wachira, 2022). In a nutshell, the entrepreneurial ecosystem is made up of all the processes, key individuals, and activities that may have an impact on the growth of entrepreneurship. Now we discuss a few entrepreneurial models found by the researchers in this study:

Model of the Entrepreneurial Process: Gnyawali and Fogel (1994) presented the entrepreneurial ecosystem model in their work. The authors' theoretical framework divides environmental influences into five categories and ties them to the five essential components of the startup process, which include entrepreneurial opportunity, entrepreneurial ability, and entrepreneurial propensity. According to Gnyawali and Fogel (1994), the entrepreneurial opportunity is the first seed for this model, followed by the entrepreneur who takes advantage of this opportunity and starts up the enterprise, followed by the entrepreneurial abilities (economic-technological-knowledge) to run and manage his business (propensity to enterprise). Once these three prerequisites are met, it is more likely that the individual will start the firm. The following environmental elements should be considered when starting a firm: (1) government policies and procedures (2) socioeconomic conditions, (3) entrepreneurial and business skills, (4) financial assistance, and (5) non-financial assistance (Khattab & Al-Magli, 2017; Silva et al., 2021).

University-based Entrepreneurial Ecosystems: A university or college serves as the hub of an entrepreneurial ecosystem centred on higher education. “Multidimensional enterprises that support entrepreneurship development through a variety of initiatives related to teaching, research, and outreach” is how Greene *et al.* (2010: 2 in Khattab and Al-Magli, 2017) define an entrepreneurial ecosystem centred at a university. Through a variety of extracurricular events and outside-the-campus projects that encourage networking with key internal and external stakeholders, the university is expected to foster entrepreneurial thinking and behaviour. University-Based Entrepreneurship Ecosystems - Global Practices is a study by Fetters *et al.* (2010 in Khattab and Al-Magli, 2017) that provides a complete picture of university-based entrepreneurial ecosystems that takes both practical and theoretical elements into account. This study found that institutions that are successful in fostering an entrepreneurial culture within their community have established fully operational university-based entrepreneurial ecosystems (Khattab & Al-Magli, 2017).

Stam's Entrepreneurship Model: The Entrepreneurial Ecosystem model proposed by Stam (2015) offers a holistic framework, for comprehending the dynamics of entrepreneurship in a specific setting. At the core of this model lie ten crucial components: institutions, the culture surrounding entrepreneurship, physical infrastructure, market demand, networks, leadership, talented individuals, financial resources, new knowledge, and intermediate services. These elements work together to shape the evolution of the ecosystem and foster the development of ventures. Notably, Stam's model is particularly influential due to its emphasis on social relationships, connections, and the role they play in driving innovation and entrepreneurship. Stemming from an empirical foundation, the model was initially developed through a case study of twelve cities in the Netherlands, yielding insights that extend beyond the local context. By offering a systemic perspective, Stam's framework facilitates the analysis of how these elements interact and influence each other, elucidating the intricate mechanisms that underlie entrepreneurial success.

Isenberg Entrepreneurial Ecosystems Model: Isenberg is one of the pioneers in the concept and development of entrepreneurship ecosystems. Isenberg (2010) developed what is known as ‘the entrepreneurship ecosystem for economic development. He identified six domains within the entrepreneurial system (Table 1).

Table 1 Isenberg’s six domains of the Entrepreneurial ecosystem

Domains	Factors	Roles
Enabling Policy	Government R& D Leadership	Support from the Administration and public bodies, both at the legislative level and in creating regulations and initiatives that foster entrepreneurial activity
Availability of Financing	Financial Capital	Easy and fast access to financing, both banking and private
A Conducive Culture	Social Norms Success Stories	Giving diffusion and visibility to success stories, and a good reputation to entrepreneurs
A Range of Institutional Supports	Non-Governmental Institutions Support Professions Physical infrastructure	All those services, resources and initiatives to support the entrepreneur;
Quality Human Capital	Educational Institutions Experience/skills/knowledge Labour	Educational Institutions, Universities and training for entrepreneurs;
Venture-friendly Markets (early customers, networks)	Demand Entrepreneurs Network (social networks)	Establishment of entrepreneur networks, the existence of first customers that test beta-products (early adopters) and from which feedback can be received.

(Source: elaborated from Morant-Martínez *et al.*, 2019; Silva *et al.* 2021; Karaki, 2021; Ala eddin, 2023)

Each domain contributes to the growth and development of the network. In this case, the ecosystem metaphor emphasizes the importance of the synergistic interactions between the agents, which are necessary for the survival and success of the businesses (Osorio, 2017). According to Isenberg (2011), each domain of the system is interrelated in distinct ways based on the environment in which the entrepreneurship activities take place and, depending on the environment’s conditions and characteristics, a distinct ecosystem will be formed (Ala eddin, 2023).

In addition to the above frameworks, scholars have significantly enriched our understanding of entrepreneurial ecosystems by providing diverse perspectives on their components. Van de Ven (1993) contributes by delineating four crucial infrastructure components: institutional arrangements, public resource endowments, market demand, and proprietary business activities. Neck *et al.* (2004) introduce a comprehensive taxonomy, the Boulder Country Entrepreneurial System, consisting of six major components, including incubators, spin-offs, formal networks, informal networks, physical infrastructure, and culture. Ahmad and Hoffman (2008) identify three essential components: determinants, entrepreneurial performance, and impact. The World Economic Forum (WEF) (2013) extends the discourse with its proposal of eight pillars covering aspects such as accessible markets, human capital, funding, and cultural support. Mason and Brown (2014) highlight four pivotal components: actors, resource providers, connectors, and entrepreneurial orientation. Mack and Mayer (2016) present an evolutionary model featuring four stages and eight core elements. Koltai (2016) introduces the Six + Six Model encompassing factors and actors. Spigel (2017) categorizes attributes into social, cultural, and material dimensions. Miller and Acs (2017) offer a unique perspective by viewing the university campus as an entrepreneurial ecosystem. Sussan and Acs (2017) contribute to the digital dimension with their proposal of a digital entrepreneurship ecosystem matrix. Liguori *et al.* (2019) further extend the conversation by developing a multi-dimensional measure based on Isenberg's six domains. Collectively, these frameworks illuminate the multifaceted and dynamic nature of

entrepreneurial ecosystems, providing valuable insights for comprehending their intricate components and interactions.

2 RESEARCH METHODOLOGY

The study aims to determine the important domains of the entrepreneurial ecosystem and their impact on entrepreneurship. In this study, we use Isenberg's (2010) six categories of entrepreneurial ecosystems to show why certain criteria are required for the region to build a true entrepreneurial ecosystem. Consequently, a conceptual framework is developed. The nature of research is descriptive, and literature reviews are an important element of the development of a discipline. As a result, secondary sources were taken into account. A comprehensive assessment of academic publications, news items, and scholarly literature on entrepreneurial ecosystems and Isenberg's concept has been completed. To complete the research, researchers analyzed linked materials using the insights gathered from this review. Keywords such as “entrepreneurial ecosystems”, “Isenberg's model of entrepreneurship”, “ease of doing business”, “corruption index”, “angel investors”, “venture capital investment”, and “entrepreneurship education” were used to search the data. The study highlighted a few key components that are discussed in relation to the first domain, government support, such as ease of doing business in the KRI entrepreneurial ecosystem. We looked at the World Bank's ease of doing business to see if there was any government assistance for creating a better environment. To determine whether financial assistance was available, we looked for present investment firms, particularly start-ups. After identifying the companies, we went through their websites to get the essential information. We looked into accessible incubators, accelerators, and university-based support centres for institutional support, particularly those services, resources, and efforts to help entrepreneurs. To complete the data search, we visited the websites of each service centre. We identified universities in KRI from the Ministry of Higher Education and Scientific Research for entrepreneurship education. Later, we looked into each university to see whether they offered any entrepreneurship classes. We looked through the most recent Global Innovation Index to find the most welcoming market for enterprises. This study's data and literature collecting and analysis took place between February and August 2023.

3 APPLICATION OF ISENBERG ENTREPRENEURIAL ECOSYSTEMS MODEL IN KRI

In this study, a comprehensive approach was adopted to investigate the factors influencing the entrepreneurial ecosystem in the Kurdistan Region of Iraq (KRI). Grounded in Isenberg's model, the research employed a descriptive exploration, focusing on the relationships between entrepreneurship and the identified domains. The methodological framework involved a thorough literature review utilizing secondary sources, including academic papers, news articles, and relevant literature. By scrutinizing these sources, the researchers aimed to elucidate the intricate connections shaping entrepreneurial activity in KRI. The systematic integration of Isenberg's model and a literature review approach allowed for robust analysis and a nuanced understanding of the multifaceted aspects influencing the entrepreneurial landscape in the region.

The investigation into government policies and leadership aimed to shed light on their impact on the growth of startups and tech-based companies in KRI. Similarly, the exploration of the availability of financing delved into understanding the role of financial support in fostering entrepreneurship in the region. Examining the cultural environment provided insights into how it affects entrepreneurial activities in KRI, while an assessment of institutional support sought to understand its contribution to the success of ventures in the region. The study also delved into how the quality of human capital

influences the entrepreneurial landscape and analyzed how venture-friendly markets for products contribute to the growth of startups in KRI.

Through a comparative analysis, the research evaluated differences and similarities across these factors, drawing connections to existing literature and discussing any contradictions or agreements. The synthesis of results from each specific research question into a coherent narrative allowed for a nuanced interpretation of the implications for the entrepreneurial landscape in KRI. This section examines how the research applied the six domains of the Isenberg entrepreneurial ecosystem model and explores their impact on entrepreneurship in KRI.

3.1 Enabling Policies and Leadership: Support from the administration and public bodies, both at the legislative level and in creating regulations and initiatives that foster entrepreneurial activity

The government's primary function is to create an environment conducive to the growth and development of entrepreneurs and start-up businesses in the country (Aryal, 2021; Bhandari and Mohite, 2023). The role of the government extends beyond simply offering loans to the business community. It also involves the formulation of policies that are supported by various stakeholders to encourage the growth of business ecosystems. Such policies can affect organizations, funding mechanisms, incentives, research institutions, and legislation that promotes entrepreneurship (Bhandari and Mohite, 2023).

By implementing sustainable policies and practices, the government can get involved in helping businesses. Such actions can be put into practice in the areas of promotion, protection (against the rivalry of large corporations), and development of institutional bodies (agencies and institutions for operational and financial aid). Additionally, the government can effectively promote R&D activity by assisting local firms and academic institutions in the creation of novel technologies, procedures, goods, and services (Karaki, 2021).

Nearly two decades after the end of the war, Iraq and KRI continues to experience severe economic and social hardship and political instability. In addition to the country's high reliance on oil exports for economic growth and revenue, which has led to weak economic policies, a lack of reforms, the public sector's dominance in employment (due to a lack of job creation), the region's reliance on imported products, weak financial system and high levels of corruption in the past, the country has recently been affected by oil price volatility, recent social unrest, and COVID-19 (Barwari, 2018; Uctu and Al-Silefane, 2023, www.arabdevelopmentportal.com/country/iraq accessed on 31 May 2023). Due to the issues mentioned above, university graduates are facing challenges in finding employment in both the public and private sectors and are shifting their focus from job-hunting to job creation as their next step.

Despite recent government efforts to encourage entrepreneurship as a way to diversify the economy and create jobs, there is a scarcity of research on the entrepreneurial ecosystem in KRI. One of the primary challenges identified for this lack of a thriving entrepreneurial ecosystem is insufficient government support, along with inadequate policies and regulations. This is true not just for KRI, but also for Iraq as a whole. The research highlights several key factors within the first domain, including the role of inclusive institutions, corruption index and ease of doing business, all of which impact the entrepreneurial ecosystem in KRI.

First, the research explores the roles of both inclusive and extractive institutions and their respective impacts on entrepreneurship. One of Acemoglu's central propositions is that "growth is more likely to take place under inclusive (economically and politically) institutions than it is under extractive

institutions” (Jakšić and Jakšić, 2017, 2018). According to Acemoglu and Robinson (2012), inclusive economic institutions promote property rights, level the playing field and promote investment in emerging technologies and skills. Inclusive economic institutions create the incentives and opportunities needed to leverage the dynamic, creative and entrepreneurial potential of society (Robinson, 2013). Inclusive economic institutions also protect property rights, the rule of law, markets and state aid (for example, public services and regulation of markets); are relatively open to new business entry; uphold contracts; provide education and opportunity to the majority of citizens; and create incentives to invest and innovate (Jakšić and Jakšić, 2017, 2018). Inclusive institutions ensure the optimal use of people’s abilities and skills. They enable and promote the participation of large numbers of people in economic activities based on freedom of choice as to where they work and what they buy. This, in turn, leads to the growth of human capital (Balatsky, 2017).

Inclusive political institutions, on the other hand, distribute political power broadly in a pluralist way and are capable of achieving a certain degree of centralization in order to create law and order and secure property rights and inclusive market economies (Acemoglu and Robinson, 2012).

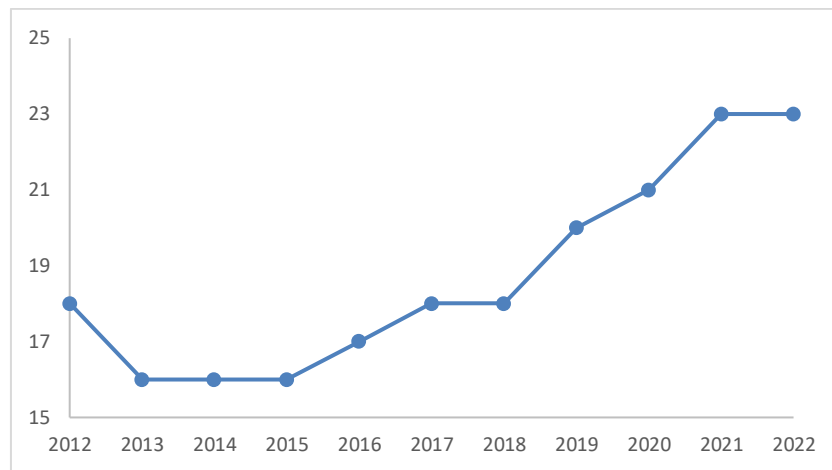
Along with inclusive economic and political institutions, Acemoglu and Robinson (2012) also explain that extractive economic institutions as structured to extract resources from the many by the few and fail to protect property rights or provide incentives for economic activity. Extractive political institutions, on the other hand, concentrate power in the hands of a few who will then have incentives to maintain and develop extractive economic institutions for their benefit. Extractive institutions are “structures designed to maximize the profit of one segment of society by exploiting the resources of the other segment.” In other words, extractive institutions exclude the masses from participating in the economic process and place them in the place of an exploited social group unable to utilize its human capital effectively (Balatsky, 2017). Extractive political institutions are made up of two important dimensions. First, they allocate political power narrowly. Second, they feature a central state that is not strong in the sense that it can provide key public goods. Countries do not acquire extractive institutions by chance, but they choose them through a political process (Robinson, 2013). Most societies throughout history and today, are ruled by extractive economic institutions: they are designed by the politically powerful elites to extract resources from the rest of society (Jakšić and Jakšić, 2017, 2018). Iraq and KRI are examples of countries where the elites dominate the resources and are governed by extractive political systems.

Secondly, the research looked into the corruption index and entrepreneurial ecosystem. Several studies have shown that corruption has a major impact on the entrepreneurial ecosystem and economic growth. This implies that corruption is an informal entity that has a negative impact on economic indicators such as GDP, income inequality and total factor productivity (Allini *et al.*, 2017). Corruption raises the direct and indirect cost of doing business, increases uncertainty and distorts economic incentives, thus preventing economic value formation and growth-enhancing economic activities such as innovation and entrepreneurship (Traikova *et al.*, 2017).

Corruption is a widespread and complex issue that hampers economic growth, social progress, and political stability. A person's perception of corruption, which is their subjective assessment of corruption in their environment, is shaped by various cognitive and contextual factors. These perceptions, in turn, influence attitudes toward entrepreneurship and can either encourage or discourage people from starting a new business. To fight corruption and boost entrepreneurship, it's crucial to address these underlying factors. This may involve policies and programs that promote openness, accountability, and good governance, along with fostering values like honesty, integrity, and ethical behaviour (Ceresia & Mendola, 2019; Choudhry & Anwar, 2023).

In academic literature and global rankings, the Corruption Perception Index (CPI) and the Control of Corruption Index (CC) are commonly used. The CPI scores countries on a scale from 0 (highly corrupt) to 100 (very clean). Although these indexes are based on perceptions, they are considered valid tools for assessing corruption levels and the effectiveness of anti-corruption policies (Ceresia & Mendola, 2019). According to the most recent data from Transparency International, Iraq ranked 157th out of 180 countries, with a score of 23 in 2022¹. Compared to its 2013 score of 16, Iraq has made slight progress, but corruption remains a significant issue affecting the entrepreneurial ecosystem negatively.

Figure 1 CPI index score changes between 2012- 2022 in Iraq



(Source: <https://www.transparency.org/en/cpi/2022/index/irq> accessed on 18 May 2023)

Figure 1 shows the score between 2012 and 2022 in Iraq. In conclusion, as the data above indicates, corruption is a major factor contributing to low levels of entrepreneurship in both the region and Iraq as a whole.

Lastly, the research delves into the ease of doing business as it relates to the entrepreneurial ecosystem. This focus aligns with the findings on extractive institutions and the corruption index. Mohammadali and Abdulkhaliq (2019) have pinpointed several legal challenges that hinder the development of an entrepreneurial ecosystem in KRI. These include restrictive banking rules and underdeveloped banking infrastructure, compounded by a cultural scepticism towards banking. They also highlight labour laws and the complexities involved in company registration, such as time-consuming procedures and associated costs. Further obstacles are identified in the realms of bankruptcy regulations, trade policies related to import and export, and multifaceted tax regulations, including the actual tax rates levied on corporate income. Additionally, the absence of well-defined intellectual property rights and patent laws, as well as convoluted customs regulations and tariff structures, are cited as contributing factors.

Modern business infrastructure, including better internet services, Fin-tech, online banking, and good legislation that facilitates imports and exports as well as registration procedures, are essential to attract foreign investment. Building a regulatory framework that makes it easier to start a business and makes it harder to violate intellectual property rights is seen as important as financial development and higher education, the rule of law, etc. E-governance policies can help reduce compliance costs and improve the regulatory environment surrounding economic growth (Begum *et al.*, 2019).

¹ (www.transparency.org, accessed on 18 May 2023)

According to the most recent annual ratings from the World Bank, Iraq ranks 172nd out of 190 countries on the 'Ease of Doing Business' index². The index evaluates ten regulatory dimensions critical for starting a business: trading across borders, starting a business, obtaining electricity, dealing with construction permits, enforcing contracts, paying taxes, registering property, protecting minority investors, resolving insolvency, and gaining access to credit. Scores are calculated based on the assumption that information on all necessary startup procedures is readily available.

Table 2 indicates the ease of doing business rank and score for Iraq in 2020. Based on the indicators, Iraq's overall performance can be rated as very poor. A starting a business indicator shows how many steps, how long it takes, and how much it costs. Iraq is ranked 154th out of 190 economies, with a score of 77.3. Starting a business requires 26.5 days and 8.5 procedures. Dealing with construction permits reveals the entire number of steps necessary to finish all legal requirements. The index is calculated after considering time, cost, quality control, and safety measures. Iraq is ranked 103 out of 190 economies with a score of 67.7. There are 11 procedures in total, and they take 167 days to complete.

Table 2 The ease of doing business rank and score for Iraq in 2020

No	Indicator	Score	Rank
1	starting a business (0-100)	77.3	154
2	dealing with construction permits (0-100)	67.7	103
3	getting electricity (0-100)	61.9	131
4	registering property (0-100)	57.3	121
5	getting credit (0-100)	0	186
6	protecting minority investors (0-100)	46	111
7	paying taxes (0-100)	63.5	131
8	trading across borders	25.3	181
9	enforcing contracts (0-100)	48	147
10	resolving insolvency (0-100)	0	168

Note: Rank and scores for the index include 190 countries.

(Source: World Bank Ease of Doing Business Index, 2020)

The cost of the procedure, the length of time required, the reliability of the electricity supply, and the transparency of the tariff are all provided by the getting electricity index. With a score of 61.9, Iraq is ranked 131. There are five procedures in total, and they take 51 days and cost 384.7 US dollars.

The procedures, costs, and duration of property transfers, as well as the effectiveness of the land tenure system, are used to determine a country's score for property registration. Iraq is ranked 121 with a score of 57.3 in these criteria. Five procedures and 51 days are required to register a property, and the cost is 7.3% of the total value of the property.

The laws governing movable collateral and the credit information system are upheld for the ease of obtaining credit. The index measuring the strength of legal rights, the breadth of the credit report, and the credit bureau coverage all result in a credit score of zero. Iraq is ranked 186 and received a score of '0' for every criterion. The score is determined by considering the rights of minority shareholders in transactions involving linked parties and corporate governance. The score for this metric is 46.0, and the rank is 111.

² (www.doingbusiness.org, accessed on 16 May 2023)

Considerations include total taxes paid, time spent paying taxes, the contribution rate for a company to abide by all tax laws and post-filing procedures. The paying taxes rank is 131 with a score of 63.5 with 312 hours in hours per year. The total tax and contribution rate is 30.8 % of profit. For the time taken and the cost to export the product (trading across borders), Iraq ranks 181 with a score of 25.3. For enforcing contracts, the time taken, the cost incurred to resolve a commercial dispute and the quality of judicial processes are taken for calculating the score. Iraq ranks 147 among 190 economies with a 48.0 score. For resolving insolvency, the time taken, cost incurred, outcome and recovery rate for commercial insolvency, and the strengths of the legal framework for insolvency issues are taken for calculating the score. The Resolving Insolvency rank is 168 because the score for resolving insolvency is '0'.

This indicates that the Iraq and KRI governments have not put much effort into making it easy for the businesses to start and simply have not supported the ecosystem well so far which also affects the lack of investments in the country overall. In conclusion, the government need to enforce some reforms to make the process smooth for businesses.

3.2 Availability of Financing: Easy and fast access to financing, both banking and private

One of the biggest challenges that most start-ups face in an ecosystem is a lack of funding. Having 'cash' is essential for starting a business, but most entrepreneurs get finance from family and friends, bank loans, venture capital, angel investments, grants, selling equity, etc.

Many academic papers focused on venture capital firms because of their active role in setting up new businesses. Venture capital has been the main source of funding for start-ups and growth companies in many countries (Ford & Nelsen, 2014). Venture capital is a type of capital that is independent, professionally managed and dedicated to equity or equity-related investments in privately held and high-growth companies (Rossi *et al.*, 2011).

According to Rossi *et al.* (2011), venture capital (VC) plays a "catalyst" role in innovation by translating R&D activities into commercial results. However, according to Jeong et al., (2020), VC companies have important "intangible assets" and "capital investments" based on their "experience and networks." Young businesses often lack the financial and intangible resources (e.g., prior experience and expertise) that are needed to grow their business. The mature market VC tends to invest in high-risk enterprises with a high return on investment (ROI) if they succeed. This is especially true for early-stage companies that require high capital to develop new products (Uctu & Eksteen, 2022).

Lack of funding, and not having access to finance through venture capital are not just a problem in developing countries; it's a problem in many developed countries as well. As in developing regions and countries, both KRI and Iraq fall into this category; they both suffer from a lack of available funding and investment. Kapita's research (2020) shows that 40 percent of startup founders have stopped looking for finance due to a lack of funding in the country. Investment in startups and tech-based companies in the country is still in the early stages, with the vast majority of funding going to established industries such as real estate, hospitality, hotels, and restaurants. There are very few 'angel investors' or wealthy individuals in KRI and in Iraq who offer startup capital and assistance during the early stages of a business' growth. Recently, a few established networks/ventures related to angel investors, which we want to mention here (Table 3).

According to Al-Silefanee & Ismael (2023), crowdfunding holds the potential as an effective fundraising strategy for KRI entrepreneurs, contributing to the growth and development of the entrepreneurial ecosystem. However, various obstacles were identified, including a lack of trust, cultural barriers, limited knowledge about crowdfunding, legislative issues, and insufficient government support for online campaigns. Having a better entrepreneurship ecosystem and witnessing entrepreneurship

growth in a country, there should be a system where accessing finance should be easy. This can lead to economic growth in a country.

Table 3 Funding sources

Kapita established the Iraq Angel Investors Network	One of the first Iraqi-focused angel networks, to foster Iraq's entrepreneurial ecosystem by matching the skills and resources of angel investors with the country's growing start-ups. Through GIZ (German Agency for International Cooperation), the German government sponsors the network (www.kapita.iq , https://iraqangels.net accessed on 16 May 2023).
Euphrates Ventures	In 2021, <i>Euphrates Ventures</i> was founded. The Euphrates Ventures seeks to make investments in new businesses in Iraq. Invested in two businesses at the moment (Alsaree3 and Nakhla), according to the Crunchbase website (www.crunchbase.com , accessed on 16 May 2023).
Five One Invest	It's a project, by Five One Labs, that focuses on improving the investment landscape in Iraq. It aims to simplify the process of making deals and foster connections between investors and entrepreneurs. By doing Five One Invest plays a role in providing greater access to capital as startups grow. With a team of professionals, in business, investment and startup support this initiative ensures that both investors and entrepreneurs can benefit from its services. Ultimately, it contributes to the expansion and success of Iraq's community (https://www.fiveoneinvest.com , accessed on 3 August 2023).
Invest My Idea	It is a crowdfunding platform operated by the Rwanda Foundation. It's a space where startup owners, mentors, investors, and entrepreneurial organizations come together. This platform enables individuals, businesses, and charitable entities to participate in the crowdfunding method that involves raising funds through contributions. By connecting these stakeholders Invest My Idea promotes financial support, for creative ideas and ventures. It aims to foster growth and innovation, within the ecosystem (https://investmyidea.com/en/about-us , accessed on 3 August 2023).

(Source: Own elaboration, 2023)

3.3 A Conducive Culture: Giving diffusion and visibility to success stories, and a good reputation to entrepreneurs

The concept of culture and its implications for entrepreneurship and innovation have drawn the attention of many researchers in literature who focus on various aspects of culture. For example, the study of national culture and its effects on innovation was conducted by Strychalska-Rudzewicz (2016). Tian et al (2018) conducted research to look at the systematic literature review of the studies that have analyzed the impact of culture on innovation. There is no single accepted definition in the literature of culture. National culture is defined as the set of values, beliefs, and assumptions learned in early childhood that make a group of people different from another group of people (Strychalska-Rudzewicz, 2016). Culture can be defined as habits, standards, values, art and social interactions that are widely shared as behaviours in a nation, region or society (Aryal, 2021). These values and beliefs are shared, interpreted, and transmitted within a collective over time. This makes the collective distinct and sets it apart from others (Tian *et al.*, 2018). Therefore, people living in a specific cultural environment are bound by the cultural environment they live in at the national and organizational levels. In other words, the various aspects of culture are interconnected (Tian *et al.*, 2018). It is suggested that a "supportive" national culture will have a positive impact on a country's entrepreneurial potential. However, it is important to note that culture plays a role in the motivation and orientation of an individual to pursue entrepreneurship. When designing policies for entrepreneurship, policymakers should also consider the cultural aspects of that society. The effectiveness of policies may be limited partly due to cultural factors beyond their control. On the other hand, policies designed to promote entrepreneurship over the long term may be tailored to the cultural biases of a particular society. Therefore, the government should take the initiative to develop business-friendly and supportive

cultures at the national and regional levels in order to improve the entrepreneurship and mindset of the country. It appears that culture may condition the potential for entrepreneurship. Research has shown that certain cultures, particularly those with a low level of uncertainty avoidance and an individualistic mindset, tend to be more hospitable to entrepreneurs than other cultural configurations (Aryal, 2021; Karaki, 2021).

In KRI, there exists an emerging culture that blends contemporary elements, making the scene quite exciting. Throughout history, the Kurds have been known for their resilience, adaptability, and a strong sense of community - qualities that are inherent to entrepreneurship. In the past, however, most people in the region preferred government jobs or working in family businesses as their career paths. Yet, in recent years, several factors have contributed to a growing interest in entrepreneurship: the rise of digitalization and globalization, increasing unemployment rates, and a youthful, ambitious population. This shift is bolstered by support from initiatives and international organizations, as well as local and global NGOs. Aspiring entrepreneurs in KRI are now venturing into innovative realms beyond traditional business models.

Nevertheless, they encounter challenges, including logistical obstacles, limited access to financing, and prevailing societal perceptions that still favour conventional careers. While entrepreneurship in KRI is burgeoning, nurtured by both local heritage and global influences, a broader cultural shift is needed to fully support and cultivate this emerging entrepreneurial wave. Policymakers must act to create an environment that not only fosters these endeavours but also ensures sustainable growth for the region.

3.4 A Range of Institutional Supports: All those services, resources, and initiatives to support entrepreneurs

Many researchers have analyzed the importance of support systems in promoting entrepreneurship. As part of the support system, certain institutions serve as catalysts for entrepreneurship, including incubators, technology parks, foundations supporting entrepreneurship, and service providers like accounting and legal firms. These entities play a vital role in fostering the establishment of new companies and the growth of existing ones (Zajkowski & Domańska, 2019).

Table 4 Incubators and Accelerators in KRI

Five One Labs Startup Incubator	This intensive, full-time, three-month program is tailored to train early-stage entrepreneurs with innovative ideas, equipping them with the tools needed to transform their concepts into reality.
Orange Corners Erbil	Operating as a startup incubator, Orange Corners Erbil focuses on aiding entrepreneurs from the Kurdistan Region in launching and expanding their businesses. The initiative extends a 6-month incubation program to young entrepreneurs, facilitating business establishment and market entry.
Takween Accelerator	Takween Accelerator specializes in propelling technology-based businesses in their growth phase, enabling them to progress more rapidly.
Suli Innovation House	Offering co-working spaces, Suli Innovation House provides a shared workspace that encourages innovation and collaboration among entrepreneurs.
UKH Creativity and Entrepreneurship Centre (UKHCEC)	As a university-based Entrepreneurship centre, UKHCEC serves as a hub for nurturing creativity and entrepreneurial spirit among students.
AUIS Entrepreneurship and Innovation Center (AEIC)	Also operating as a university-based Entrepreneurship centre, AEIC contributes to fostering innovation and entrepreneurship within the academic realm.

(Source: Own elaboration, 2023)

The higher the level of support, the higher the rate of growth and development in entrepreneurship (Aryal, 2021). There is a lack of support and environment for entrepreneurship in developing economies. In KRI, one of the main obstacles is the lack of networking with experienced or well-known profile entrepreneurs, as these people will share information and provide opportunities to the youth. In recent years, several business incubators and accelerators have been set up in KRI. The purpose of these small business incubators is to promote small businesses through mentorship, networking activities, office space, administrative and technical support, and to reduce startup business failure, create job opportunities, and shift the culture of young people from looking for work to creating new jobs.

We identified (in Table 4) to shed light on specific Institutional Supports: These Institutional Supports collectively contribute to bolstering the entrepreneurial landscape in KRI, facilitating knowledge exchange, mentorship, and resource access for aspiring entrepreneurs.

3.5 Quality Human Capital: Educational Institutions, Universities and training for entrepreneurs

One of the domains mentioned by Isenberg (2010) for creating a stronger entrepreneurial ecosystem is having quality human capital, which might be the outcome of the existence of successful institutions. Human capital is the set of knowledge or skills (education or experience) that an entrepreneur has and can apply to specific venturing efforts. Goldin, (2016): 25 in Aryal, 2021, defines human capital as the pool of productive skills and talents, as well as health and expertise in the labour force. Aryal (2021) underscores that the success of an enterprise significantly hinges on the availability of skilled human resources. Educational institutions, particularly universities, serve as crucial intermediaries by facilitating the transfer of research findings to the market, fostering technology transfer, and propelling innovation commercialization. This indispensable role, often overlooked in earlier discussions, entails the creation and dissemination of knowledge, thus contributing to the overall strength of the entrepreneurial ecosystem (Kruger, 2023).

According to the 2019 Human Development Index (HDI), Iraq ranks 123 out of 189 countries in the middle human development group with a 0.646 value. The country's value is lower than the average value of 0.705 among Arab countries. This indicates that the country's performance in key dimensions of human development, such as education, living standards, and health, is moderate. Adjusting for inequality, the country's HDI drops by 19.7 percent, mainly due to educational inequality³.

The importance of entrepreneurship education in promoting entrepreneurship among university students is well known. In brief, entrepreneurship education must make a significant impact on developing the necessary skill sets and enforcing leadership among university students. Leading in an entrepreneurial environment also requires certain typical competencies, which can be acquired through a purposeful entrepreneurship education program (Jun-Hwan, 2018).

Based on Kapita's research results (2020), current education and training are identified as the weakest dimension in the ecosystem in Iraq and KRI.

According to the Ministry of Higher Education and Scientific Research in KRI, there are 18 public universities and 17 private universities. When we evaluated universities with business-related departments or colleges, we found that 6 private universities offer an Entrepreneurship course, and 4 public universities provide the same. Upon conducting a thorough analysis of these institutions, it became evident that the majority of public universities lack a robust supportive system for

³ (www.arabdevelopmentportal.com/country/iraq accessed on 31 May 2023).

entrepreneurship. Notably, only one university has an Entrepreneurship department, which was established in 2022. Interestingly, none of the other institutions includes an Entrepreneurship department. Additionally, a mere 10 out of the total 35 universities offer courses related to the subject of entrepreneurship. Table 5 indicates the details of the universities and entrepreneurship-related courses/departments that exist in each selected university.

Table 5 Universities in KRI and Existence of Entrepreneurship Department/Courses

University	Type	Location	College/ Department	School/ Department	Entrepreneurship Course	Entrepreneurship department
Catholic University	Private	Erbil	Department of Business Management		Yes	No
Cihan University	Private	Erbil-Dohuk-Sulaimani	College of Administrative and Financial Services		No	No
Thishk International University	Private	Erbil-Sulaimani	Faculty of Administration and Economics		Yes	Marketing and Entrepreneurship Department (2022)
Nawroz University	Private	Dohuk	Department of Business Administration		Yes	No
American University of Sulaimani-Iraq	Private	Sulaimani	Department of Business Administration		Yes	No
University of Human Development	Private	Sulaimani	College of Administration and Economics		No	No
Qaiwan International University	Private	Sulaimani	Bachelor of Management (Technology)		Yes	No
Komar University of Science and Technology	Private	Sulaimani	Department of Business Administration		Yes	No
University of Dohuk	Public	Dohuk	College of Administration and Economics		No	No
Duhok Polytechnic University	Public	Dohuk	Technical College of Administration		Yes	No
The American University of Kurdistan	Public	Dohuk	College of Business		Yes	No
University of Kurdistan Hawler	Public	Erbil	School of Management and Economics		Yes	No
Salahaddin University	Public	Erbil	College of Administration and Economics		No	No
Erbil polytechnic university	Public	Erbil	Department Of Business Administration Techniques		Yes	No
University of Halabja	Public	Halabja	College of Law and Administration		No	No
Charmo University	Public	Kalar	Department of Business Administration		No	No
Koya University	Public	Koya	Faculty of Humanity and Social Science/ The Department of Administration & Accounting		No	No
University of Raparin	Public	Ranya	Department of Business Management		No	No
Soran University	Public	Soran	-		No	No

University of Sulaimani	Public	Sulaimani	College of Administration and Economics	-	No
Sulaimani Polytechnic University	Public	Sulaimani	Business Management Department	-	No
The University of Zakho	Public	Zakho	College of Administration and Economics	No	No

(Source: Authors' own construction based on the university's official websites, 16 May 2023)

3.6 Venture-friendly Markets for products: Establishment of entrepreneur networks, the existence of first customers that test beta-products (early adopters), and from which feedback can be received

Investment and employment market conditions are critical for any development. Favourable market conditions reduce the risk of business formation, boost investment returns, and ultimately boost employment. A good business environment has low business capital costs, fair competition, and well-structured government regulations (Karaki, 2021).

In this context, the term market mainly refers to reference customers, the distribution channels and the local business network. Entrepreneurs need to talk to early customers to define the products and service level and serve as reference customers. Besides, money from a profit-making customer is the best form of financing for an entrepreneur. Especially in entrepreneurship, there is a new offering that will easily spread in the market if pioneer customers make a good reference to it. The first good reference usually means more business. If they are happy with the new product, then they recommend it to others. This is very important in start-ups.

Distribution is seen as the second half of marketing. Distribution takes the products from the point of production to the point of consumption. The role of the distribution channel is very important. Today, consumer behaviour is changing because of digital marketing. Especially for digital products such as books, newspapers, magazines, films, music, graphics, etc., the channels and mechanisms of distribution are completely different. Innovation, advanced technology and various environmental changes have made the market and the distribution mechanism more complex.

Local business networking is just as important for new ventures as it is for established ones. New businesses often lack the necessary knowledge and experience in a particular territory and need to build relationships with existing networks in order to succeed (Aryal, 2021).

Overall, in Iraq, including KRI, the business environment in the private sector is very weak, which has a disproportionately negative impact on businesses. Private sector investment is low, productivity is low, and competition is limited. Most of the private sector is active in retail and wholesale trade. The economy's lack of innovation performance can be seen in the country's latest ranking on the Global Innovation Index of 2022, where the economy ranked 131 out of 132 countries, with an innovation score of 11.9 (Global Innovation Index, 2022).

4 DISCUSSION

According to Spigel (2016), while government support is crucial for building entrepreneurial ecosystems, it is important to recognize that governments cannot dictate entrepreneurs' actions in establishing and operating businesses, nor can they control entrepreneurs' attitudes towards risk and investment. Our analysis reveals significant obstacles to the growth of the entrepreneurial ecosystem in

KRI, including the lack of government support, inadequate policies, and weak regulations. Political instability, economic hardship, and high levels of corruption further exacerbate these challenges. However, amidst these difficulties, there are also opportunities for improvement and development. Regarding policies and leadership, the government plays a crucial role in creating an enabling environment for entrepreneurs and start-ups. This involves not only providing financial support but also formulating policies and regulations that foster entrepreneurial activity. By implementing sustainable policies and practices, the government can actively promote entrepreneurship, incentivize investment, and drive innovation.

Access to a diverse range of resources, including financial, human, and physical capital, is crucial for entrepreneurs to successfully establish and sustain a small business. This need for resources, particularly financial support, becomes even more critical for new, innovative, and rapidly expanding enterprises (Lawal *et al.*, 2018). Unfortunately, entrepreneurs in KRI often encounter significant challenges when it comes to securing the necessary financing. This scarcity of funds and limited access to venture capital greatly hinder the growth and development of startups. While some measures, such as the establishment of angel investor networks and venture capital firms, have been initiated to address this issue, there remains an urgent need to increase funding opportunities and investment for startups and tech-based companies. Enhancing the availability of financial support from both banking institutions and private investors is recognized as a key strategy to promote entrepreneurship in the region.

However, this strategy is complicated by the limitations of the current banking system. The ongoing severe recession in Iraq's financial sector due to internal conflicts and interstate wars exacerbates these systemic issues and affects the entrepreneurial ecosystem in KRI (Mahmoud *et al.*, 2014). Consequently, the financial landscape in KRI poses a significant challenge for entrepreneurs seeking funding for their businesses. Existing sources of funding, such as banks, individual investors, and venture capital firms, are inadequate, and bureaucratic inefficiencies and restrictions within the banking system further impede businesses from securing necessary funds.

The problematic implementation of financial services provided by the government adds to these challenges. A study by Muramalla *et al.* (2021) emphasizes that entrepreneurs in KRI often face limited access to capital due to frequent financial crises stemming from fluctuating oil prices. This lack of seed capital for investment is compounded by an insufficient legal framework to support bank credit or private investment, creating an uncertain environment for entrepreneurs.

Furthermore, Mohammadali and Abdulkhaliq (2019) highlight the impact of the financial crisis on entrepreneurship. They point out that the lack of access to finance for investment and the difficulty in raising sufficient startup funds, particularly in the aftermath of recent financial crises; have resulted in a severe shortage of capital for new entrepreneurs. This financial barrier has emerged as one of the significant demotivating factors for entrepreneurship in the region.

Kapita's (2020) study, focused on the Iraqi startups' ecosystem, explores the influence of cultural and social norms on businesses in Iraq. Their comprehensive framework examines various factors prevalent in Iraqi society. Notably, the study revealed that the cultural aspect, specifically 'culture encouraging risk-taking,' was ranked very low, representing the lowest dimension. These findings shed light on how individuals in Iraq perceive self-sufficiency, personal responsibility, creativity, risk-taking, and individual success. Understanding these norms provides us with deeper insights into the cultural dynamics at play and their broader impact on Iraqi society as a whole.

Promoting an entrepreneurial culture in Iraq, particularly in KRI, faces significant challenges due to the prevailing cultural attitudes. The cultural context, especially among older generations, prioritizes stability through government jobs, leading to limited acceptance and support for entrepreneurship.

However, a notable shift is occurring as younger entrepreneurs challenge these cultural and familial attitudes. To foster a thriving entrepreneurial culture, it is crucial to establish a cultural foundation that supports risk-taking and embraces the acceptance of failure. This process involves building awareness among young people about the potential of starting and managing their own businesses as an alternative to traditional employment in government and the private sector (Azar and Drogendijk, 2016).

The significance of a conducive culture for entrepreneurship cannot be overstated. National culture plays a significant role in motivating individuals to pursue entrepreneurial endeavours. Unfortunately, in Iraq, entrepreneurship is not widely embraced within the cultural context. This highlights the need for concerted efforts to shift cultural perceptions and attitudes towards entrepreneurship. Encouragingly, the study by Kapita emphasizes the importance of cultural factors, including individualism, creativity, and the cultural appetite for entrepreneurial risk, in shaping the entrepreneurial ecosystem.

To overcome the cultural barriers, the government must take initiatives in developing business-friendly and supportive cultures at both the national and regional levels. This involves promoting entrepreneurship as a viable and rewarding career path, as well as encouraging risk-taking and fostering a spirit of innovation. By cultivating awareness, particularly among the youth, about the potential of starting and operating a business as an alternative to traditional employment, the entrepreneurial culture can gradually take root and flourish in Iraq and KRI.

Institutional support is crucial for nurturing and growing the entrepreneurial ecosystem. Today, business incubators have become an integral part of the modern entrepreneurial landscape, offering much-needed support to new ventures through various measures (Hausberg and Korreck, 2020). In the context of KRI, several business incubators and accelerators have already been established. These entities provide a range of support including mentorship, resources, and networking opportunities to startups.

However, the need for enhanced support remains. Despite the progress made, there is still room for further investment in these institutions to ensure the creation of more comprehensive support systems. Broadening the scope of available resources, increasing networking opportunities, and augmenting administrative support can all contribute to reducing startup failures and creating a more favourable environment for entrepreneurial growth in KRI.

Entrepreneurship training plays a vital role in the overall development of entrepreneurship by establishing a strong foundation of skills and knowledge. Nevertheless, it should be acknowledged that not all entrepreneurship training programs lead to job generation in the economy (Mwatsika, 2016). Quality human capital, including education and programs for entrepreneurs, is a critical factor in fostering a thriving entrepreneurial ecosystem. The development of skilled individuals with the necessary knowledge and expertise is essential for the success of entrepreneurial ventures. Enhancing the quality of educational institutions, introducing entrepreneurship education programs, and providing training opportunities for aspiring entrepreneurs can significantly contribute to the development of a skilled workforce and promote entrepreneurship as a viable career choice.

Lastly, venture-friendly markets for products are crucial for the success of start-ups. Establishing entrepreneur networks and cultivating early adopters as first customers can provide valuable feedback and help drive product development and market penetration. Creating a business environment with low capital costs, fair competition, and well-structured government regulations is essential to attract investment, stimulate innovation, and boost employment.

CONCLUSIONS

This article aimed to comprehensively examine the entrepreneurial ecosystem in KRI, employing Isenberg's model as a framework. Through rigorous analysis and exploration of various factors, the study aimed to shed light on the challenges and opportunities within the entrepreneurial landscape of KRI. This paper has examined the application of Isenberg's model in KRI and discusses the challenges and factors that impact the entrepreneurial ecosystem in the region. The findings shed light on various areas such as policies and leadership, availability of financing, conducive culture, institutional support, quality human capital, and venture-friendly markets for products, highlighting both the challenges and opportunities present.

The effective functioning and development of an entrepreneurial ecosystem heavily rely on the active collaboration and understanding of roles among stakeholders. Typically, well-established ecosystems thrive because stakeholders possess a comprehensive understanding of how to synergize their efforts for collective growth. However, in the Kurdistan Region of Iraq, there appears to be a notable gap in communication and clarity regarding the roles of ecosystem stakeholders. This deficiency hinders the region's entrepreneurial landscape as stakeholders seem to lack the necessary coordination and shared understanding that is pivotal for fostering a conducive environment for startups and innovation. Addressing these communication gaps and enhancing stakeholder awareness of their roles could significantly contribute to unlocking the full potential of the entrepreneurial ecosystem in the Kurdistan Region.

It is crucial to recognize certain limitations within the scope of this research. The study offers a snapshot of the entrepreneurial ecosystem in KRI at a specific point in time, and the dynamic nature of such ecosystems suggests the need for continuous monitoring and adaptation. The findings are based on available literature and data, and as conditions may evolve, future research endeavours should consider the evolving landscape.

This article caters to a diverse audience, including policymakers, government officials, investors, entrepreneurs, and researchers interested in the economic development and entrepreneurship landscape of KRI. The insights presented herein can play a pivotal role in informing strategic decision-making and guiding interventions aimed at fostering a more supportive environment for startups and innovation.

In anticipation of future scholarly inquiries, it is recommended that subsequent research endeavours undertake a more in-depth exploration of the specific facets identified within this study. Investigating the efficacy of potential policy reforms, conducting meticulous analyses of financial mechanisms, and evaluating the influence of cultural awareness programs on entrepreneurial attitudes constitute promising avenues for further scholarly investigation. Furthermore, the implementation of longitudinal studies aimed at systematically tracking the evolutionary trajectory of the entrepreneurial ecosystem in KRI would significantly enhance the scholarly discourse, providing a more thorough and dynamically nuanced comprehension of the regional entrepreneurial landscape.

IMPLICATION AND RECOMMENDATIONS

The lack of government support and weak policies significantly hinder the growth of the entrepreneurial ecosystem in KRI, impacting startups and tech-based companies. Scarce funding opportunities and limited access to venture capital pose significant obstacles to their development. Prevailing cultural attitudes, particularly the preference for stable government jobs, impede the acceptance and support for entrepreneurship. While business incubators and accelerators exist, there is still room for improvement in their scope and resources. The development of skilled individuals with

entrepreneurship knowledge is essential for the success of ventures. Creating markets conducive to startups' success requires low capital costs, fair competition, and well-structured government regulations.

To address the identified challenges and capitalize on opportunities, the following recommendations are put forth:

- Establish collaborative dialogues, workshops, and a centralized communication platform to address stakeholder communication gaps and enhance awareness, fostering a more cohesive and supportive entrepreneurial ecosystem.
- Policy Reforms: Governments should enact and implement sustainable policies that actively promote entrepreneurship, incentivize investment, and drive innovation.
- Financial Support Enhancement: Efforts should be made to increase funding opportunities, improve access to venture capital, and address the limitations of the current banking system.
- Cultural Awareness Programs: Initiatives to shift cultural perceptions towards entrepreneurship, particularly among the youth, should be implemented to foster a thriving entrepreneurial culture.
- Investment in Support Institutions: Stakeholders should invest in business incubators and accelerators to broaden the scope of available resources, increase networking opportunities, and augment administrative support.
- Education and Training Programs: Institutions should focus on enhancing the quality of education, introducing entrepreneurship education programs, and providing training opportunities for aspiring entrepreneurs.
- Business-Friendly Environment: Policymakers should work towards creating a business environment with low capital costs, fair competition, and well-structured government regulations to attract investment and stimulate innovation.

If implemented cohesively, these recommendations have the potential to unlock KRI's entrepreneurial potential, stimulate economic growth, and create a conducive environment for startups and innovation, ultimately leading to job creation and economic diversification in the region.

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