

INNOVATION IN STARTUPS: DRIVERS AND INHIBITORS

Case: AUIS Entrepreneurship Initiative of
the American University of Iraq, Sulaimani

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ABSTRACT

The AUIS Entrepreneurship Initiative (AEI) at the 'American University of Iraq, Sulaimani' is in the phase of designing its curriculum toward fostering entrepreneurship in Iraq through providing entrepreneurs with different resources to grow their businesses and contribute to the regional economic growth. This study investigates innovation in the context of startups in the Kurdistan Region of Iraq (KRI). The purpose of the study is to discover what startups understand from the concept of innovation, how they innovate in their businesses and what they encounter as factors - both internal and external - driving or constraining their innovation activities.

The theoretical framework of the study covers knowledge about the concepts of innovation and startup, the role of innovation in driving economic growth, the characteristics of innovation in startups and innovation drivers and barriers. The empirical part of this study is based on qualitative semi-structured interviews with founders/co-founders of twelve KRI startups across different industries. Finally, a workshop was organized to discuss practical implications of the study and to come up with concrete development proposals and solutions for the AEI curriculum development of the 'American University of Iraq, Sulaimani'.

The findings of this study indicate that despite the fact that majority of the KRI startup entrepreneurs regarded innovation as a new, different or creative way of doing things or as a change in mindset, merely few innovates through deliberate plans and processes or reinvents effective business processes. Majority of the startup entrepreneurs innovate with an aim of filling existing gaps in the local market, rather than creating new or ground-breaking solutions and technologies on a global scale. Based on the findings, a model of innovation drivers and barriers is developed.

In the light of the study's findings, concrete development suggestions are made to the AUIS Entrepreneurship Initiative for the development of its future curriculum.

Key words: innovation, innovation activity, startup, economic growth

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ABBREVIATIONS

KRI – Kurdistan Region of Iraq

KRG – Kurdistan Regional Government

AUIS – American University of Iraq, Sulaimani

AEI – AUIS Entrepreneurship Initiative

1 INTRODUCTION

1.1 Background

In the increasingly changing, demanding and complex world of today, too often we come across the terms of entrepreneurship, innovation and startup. This set of concepts, associated with private sector, forms an essential part of the entrepreneurship ecosystem and contributes to any country's economic growth. While it is believed that economic growth is demanded in order to have more startups and businesses (Isenberg 2014), it is, in fact, both that go hands in hand. Fostering entrepreneurship is crucial for economic development, concurrently, economic growth can stimulate business creations.

Today, organizations and businesses pursue innovation not only to outperform in the market, but also to be able to survive. Innovation shall become that one important part of any business, of any size and industry, and shall be acknowledged. (Davis 2018.) It is vital to foster innovation and innovative thinking in all businesses, specifically, in startups, where innovation is more demanded for the sake of enduring a business that is in its early stage.

Likewise, identifying the drivers and inhibitors of innovation plays an important role in every business. Only then, businesses will be able to come up with new ideas for creating new services, products and concepts. This study is about discovering the innovation drivers and inhibitors in the context of startups. The precise definitions of both concepts, innovation and start-up, are found in the literature review of this work, chapter two.

Today, various initiatives, programs, projects and similar efforts have been undertaken around the world to foster and develop entrepreneurship and innovation that will further enable private sector growth and stimulate economic development. In the constantly and rapidly changing world and continuous consumer changes, innovation is now demanded more than ever to produce new solutions to consumers. No doubt, innovations are

more typical for businesses in the Western world rather than those in the developing countries.

Iraq, as a developing country with upper-middle-income economy (The World Bank 2018), has lately focused on rebuilding the country after the recent various political and economic crisis in the region. One of the goals has been to focus on building a sustainable private sector and boosting entrepreneurship, in particular, in Northern Iraq - the Kurdistan Region of Iraq (KRI). According to a strategic development plan for 2020, published by the Kurdistan Regional Government - Ministry of Planning (2013), one of the essential aims for fulfilling the vision of their plan is to develop a diversified economy where an entrepreneurial private sector thrives. Likewise, the recent economic reform plan produced by the KRG and the World Bank aims at building a stable economy in the region, specifically, through a focus on enhancing the private sector and subsequently increasing productivity and job opportunities (Kurdistan Regional Government 2016).

Despite of the deprived entrepreneurship ecosystem, startups are slightly being built in the Kurdistan Region of Iraq as entrepreneurs, investors and the government have realized the challenges and consequences of counting solely on the country's oil revenue following the major oil price decrease. These startups have added a visible contribution to the region's private sector advancement and subsequently are likely to have a positive effect in the region's economic development. It is worthwhile perceiving that the younger generation of the region with utmost talent and willingness have expressed a great desire toward entrepreneurship and innovation. (Ahmed 2017; Bosley 2017.)

Undoubtedly, the role of collaboration between academic institutions and private sector is significant for supporting entrepreneurs and startup businesses in terms of building entrepreneurial networks and fostering innovation (Damicis 2012). Also, there are other types of organizations and initiatives who support new businesses and startups in terms of providing business trainings, guidance and potential funding.

The AUIS Entrepreneurship Initiative (AEI), launched at the 'American University of Iraq, Sulaimani' (AUIS) in 2017, aims at providing guidance and support through trainings, workshops and business incubators to foster entrepreneurship in the KRI and across the whole country. The ultimate objective of the AEI is to contribute to creating a sustainable entrepreneurship ecosystem that will further have a positive impact on the country's economic growth. The AEI works closely with a diversified team of entrepreneurs, business leaders and investors in the region, both from public and private sector, to create a comprehensive curriculum promoting entrepreneurship and innovation in the region. This study is based on the need of contributing to create an effective curriculum for the AEI.

1.2 Objectives and research questions

The newly established AEI at the 'American University of Iraq, Sulaimani' is at a stage of building a comprehensive curriculum for its future operations. The main objective of this study is to give insights and develop new ideas that will contribute to AEI's curriculum design. With the help of these ideas AEI could develop plans and programs to provide support, guidance and resources to bridge the gaps entrepreneurs experience while pursuing innovation in their startups.

As stated previously, recent changes in the KRI business environment and entrepreneurship ecosystem have resulted in the creation of new businesses and start-ups with a strong need to innovate and sustain. Given the important role of innovation, being one of the major forces, in economic development (Gregersen & Johson 1997; Rose, Jones & Furneaux 2016), identifying the factors that can endorse or hinder it seems to be critically important.

This research seeks to explore the innovation characteristics of start-ups in the Kurdistan Region of Iraq (KRI) and the encountered drivers and inhibitors to their innovation activities. The purpose is to discover what start-ups understand from innovation, how do they innovate in their businesses to remain competitive and what they consider as factors - both internal and

external - driving or constraining their innovation activities. Based on the in-depth knowledge obtained from the literature review as well as the empirical findings of this study, a model of innovation drivers and barriers is developed. Providing the outcomes of the thesis in terms of concrete development plans and suggestions for the AEI curriculum development, is the ultimate purpose of this study.

The main research question of this study is:

- *How can startups in the Kurdistan Region of Iraq enhance their innovation practices and foster private sector growth?*

The sub-questions of this study are:

1. *What does innovation look like in the KRI startups and what types of innovations are generated and how?*
2. *What are the drivers of innovation?*
 - *Internal factors*
 - *External factors*
3. *What are the barriers to innovation?*
 - *Internal factors*
 - *External factors*

1.3 Research methodology

Based on the task and focus of the study, a qualitative single-case study approach is chosen as the main research approach of this study. The single-case study describes the Kurdistan Region of Iraq as one case and discovers the impacts on the region. The reasoning of this study is inductive, it is investigating innovation activities of the KRI startups and aims at gaining an understanding of innovation from their perspectives. Thus, the purpose is to build empirical generalizations through observations.

Due to the fact that this study aims at an in-depth understanding of the innovation phenomenon in the case region's startups, a qualitative semi-structured interview is chosen as the main research method of the study. Additionally, given the novelty of the phenomenon being studied in this research and the absence of appropriate previous knowledge and literature about the topic, an exploratory research design seems to be an appropriate choice.

This study utilizes qualitative interviews as its primary source of information, and literature review and theoretical concepts (books, journals, articles, electronic sources and verbal sources) as its secondary source of information.

1.4 Scope and limitations

The main motivation for undertaking this study is the author's profound interest toward understanding how start-ups in this specific region and culture innovate to sustain their businesses while identifying the relevant drivers and obstacles to their innovation activities. The results of this study are intended to be utilized by the newly established AUIS Entrepreneurship Initiative (AEI) as well as for general application; extending them to other organizations and institutes assisting startups and entrepreneurship in the region.

It is important to stress that due to cultural, demographic, economic and technological factors that change enormously from this region to others, the findings of this study are less likely to be successfully applied to other regions' startups and their innovation activities. Additionally, lack of earlier researches exploring the innovation phenomenon in the KRI forms a significant limitation to this study. According to author's knowledge, no prior research studies are found on a similar topic for the same region. This is likely to make the understanding of the research problem more challenging due to inadequate information. The phenomenon (innovation) being studied in the context of the startup world is also likely to act as a limitation to this

study as both concepts – innovation and startups – are rather new to the region.

1.5 Thesis outline

This thesis comprises five main chapters; introduction, literature review about innovation and startups, research design and methodology, research results and finally conclusions and recommendations (figure 1).

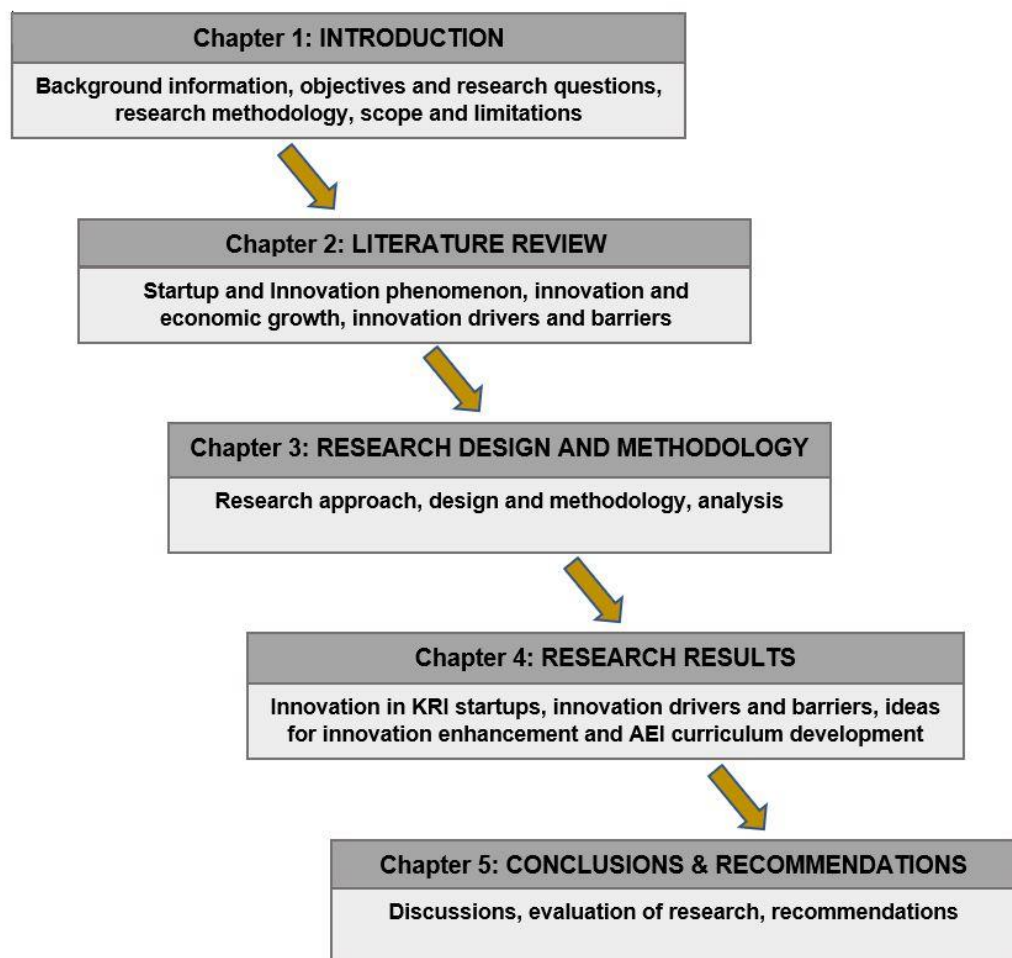


FIGURE 1. Thesis structure

In the introduction part, background information of the problem space is explored, and objectives and research questions of the study are presented followed by the methodology of the study and the anticipated limitations. The literature review covers theoretical knowledge and concepts about innovation and startups, the characteristics of innovation in the start-up

world as well as innovation drivers and barriers. Chapter three presents the research approach and design and chapter four the obtained results. Finally, the last chapter discusses the empirical results of the study, evaluation of the whole research project as well as future recommendations.

2 LITERATURE REVIEW

2.1 The startup phenomenon

Today, we hear about start-ups almost everywhere, both in professional life and academia. Yet, not everyone necessarily knows the comprehensive meaning of the concept, in particular, when it comes to determining whether or not a certain business falls under the category of a startup. In the KRI, the adoption of the notion by public seems to be still in its infancy. Startups and entrepreneurship in general are not very familiar to this region, however, inspiration and willingness to enter the world of business have gradually attracted young people of the region to start practicing entrepreneurship and increasing employment opportunities (Aziz 2018). It is notable that start-ups are being built continuously in the KRI and various entrepreneurship accelerator initiatives have begun to promote and support them. One of the challenges for this research work was to find appropriate and extensive data about startups and their activities in the KRI.

Very often, arguments about the start-up concept have been controversial, leading to a perspective that start-up has a similar meaning to that of “entrepreneurship” or is merely an ordinary new business venture that has formed a new phenomenon due to its potential rapid growth and practiced innovation activities. Today, there are also approaches that consider start-up more as a mindset, a culture or a business model that businesses adopt to be labelled as startups (Sawers 2011). Trott (2017, 68) relates entrepreneurship to pursuing business activities in unfamiliarity with great uncertainty and challenges. This corresponds to Ries’s (2011, 8) impressive and broadly used definition for a start-up; “an organization dedicated to creating something new under conditions of extreme uncertainty”. This seems to be rather extensive, yet, a comprehensive definition.

Fundamentally, Ries’s definition of a start-up covers all kinds of entrepreneurship initiatives regardless of a firm size, age or industry. The definition’s scope extends to as far as entrepreneurship initiatives created by individuals or teams within established and giant enterprises. Operating

a new business in uncertainties and preparing it for unknown customer bases and markets is one of the most essential parts of the aforementioned definition of a start-up. To overcome the challenge of these uncertainties, the Build-Measure-Learn feedback loop is the answer. Building product or service prototypes, measuring their outcomes through customer feedback and learning to make further enhancements based on customer preferences are proposed by a lean start-up method. Experiments and validated learning are the fundamental activities of a start-up that enable turning a vision into a product that is valuable for customers. Only through this, start-ups will be likely to discover what products they should build and to whom, with no need of squandering excess resources. (Ries 2011, 8-9, 22, 49 and 55.)

Aulet (2013, 2, 11-13, 17) believes startup is a disciplined entrepreneurship that comprises a set of constructive steps leading to a successful innovation-driven business. These discrete phases cover learning about the customer segments, customer value proposition, creating customer-centric products and scaling the entire business. Therefore, Aulet argues that entrepreneurship is not a certain skill or attribute people are born with but can be surely taught and learned. Ultimately, entrepreneurship success is about what one is best at doing for a longer period and is passionate about. Having an idea, a technological invention or merely a passion for something can initiate a business.

Rose 2016 (30-31), however, emphasizes the importance of these business ideas to be scalable. Startups typically involve small capital paired with optimized cost structure, and of course, dependency on the functionality as well as viability of the actual business model. It is evident that startups are not capital-intensive ventures, rather, they start small and further fund their businesses with the support of potential revenues. Likewise, according to Moroni, Arruda and Araujo (2015, 2199-2200) the secret of start-ups is to discover niche markets and focus attention on innovating for them without the need of massive investments.

Undoubtedly, having merely an attractive idea or an effective business model seems not to be sufficient for building a sustainable start-up. The

process also involves various other aspects that are likely to construct or destruct the business success, such as legal, finance and manpower issues. (Rose 2016, 202-203.)

Startups, similar to other types of businesses, are important for all economies. They are said to have a remarkable impact on economic growth. This, however, is reliant on the environment and region they operate in. Generally, in developing countries start-ups have minor contributions to the development of economy while providing other positive impacts such as social (Moroni et al. 2015, 2201). Nonetheless, this is largely dependent on the role of the private sector in the national economy of each specific country.

Startup development stages

Similar to the startup phenomenon, the startup lifecycle is being defined and perceived differently by different individuals and experts. Certainly, there is no one right and clear approach for defining the different stages of the startup lifecycle. According to Gustavson (2017), it all starts from having a vision for creating a solution to a dilemma, working hard on implementing the needful product and positioning it in the market place and finally making the product available for users. The last stage is then to start planning the next steps for the future. Kraus (2017) describes a five development stages of a startup: starting with an early stage, moving next to a funding stage, establishing the business and pursuing growth, getting mature in the business and finally getting acquired. (McGowan 2017.)

In Balfour's (2013) perspective, startups experience three stages while they grow: traction, transition and growth. In each of these phases there are different goals and activities toward establishing and growing the business. The traction stage is characterized by discovering the product-market fit and aiming at merely retaining the business, whereas in the transition and growth phases more conscious steps are taken toward growth and better performance. The lifecycle of a startup can also involve five different phases that starts from the seed and development phase; the actual startups phase,

and continues through growth, establishment and expansion phases toward maturity and possible exit (Bhattacharyya 2016).

The most critical and challenging phase, however, seems to be the early stage from where everything gets started. This phase involves everything from brainstorming, ideation, building and testing MVP to funding. At this stage a great amount of uncertainty rules the game. Nonetheless, what is decisive for the early-stage seems to be pre-funding. (Kraus; Gustavson and Moyer, as cited in McGowan 2017.)

Another useful approach for startup development stages is the startup development phases framework (figure 2) created by Startup Commons (2019). This framework is an open standard to help building a common picture about the different phases startups go through during their lifecycle.

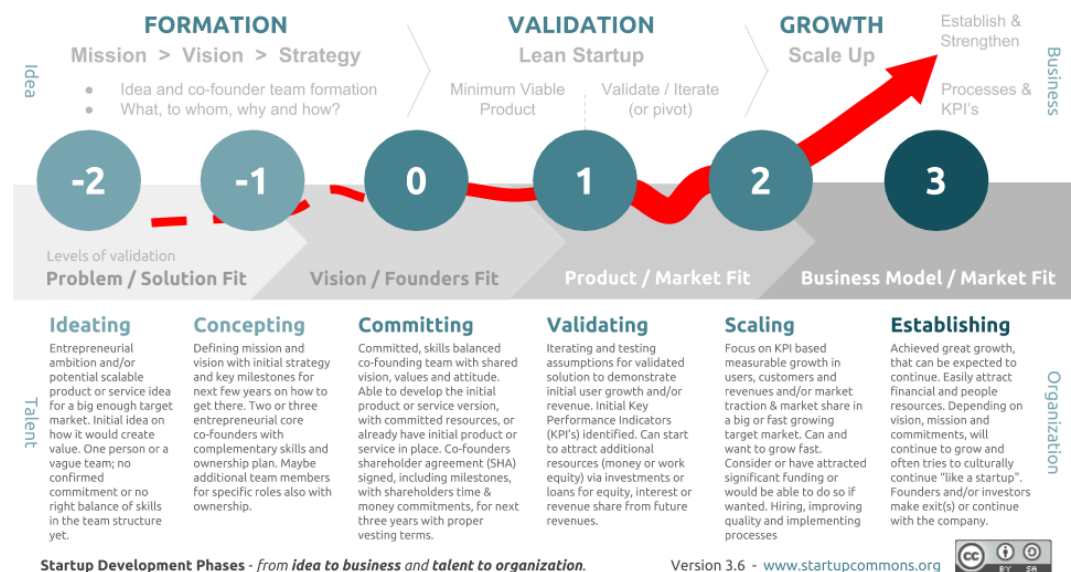


FIGURE 2. Startup development phases (Startup Commons 2019)

This framework covers all the stages from ideation to the implementation of a scalable business and growth. In addition to people, products and processes that build the key parts of the startup development stages, this framework highly emphasizes the importance of effective teams throughout the stages. (Startup Commons 2019.)

According to Cohan (2016), new ventures go through four different stages while they grow. These stages are prototyping, customer base, market expansion and finally, potential exit. Everything starts from having the idea and building a prototype from it, developing the prototype further according to customer feedback, putting the final product to the market and then starting to generate revenue and pursuing growth. To win this challenging process, it is essential to identify the need for both capital and skills demanded for each development stage. One of the most significant skills during the early stages seems to be customer centricity; the ability to listen to customers and work to produce the offerings according to their needs.

2.2 Regional economic growth and innovation

While the KRI is not considered an innovative region in comparison to other economies worldwide, the region has a vast potential for innovation and entrepreneurship. The potentiality arises from having more problems in the region, and hence, experiencing a greater need to create solutions and innovate while enhancing the chances for entrepreneurship success (XFM 2018). As it has been said, “necessity is the mother of invention”, in a region like KRI, there is a continuous need to find chances to create valuable solutions to people’s problems. Transforming these inventions into scalable businesses are likely to create enormous innovation opportunities.

Given the infancy stage of innovation and the emerging business environment of the KRI, incremental innovations are typical to the region as an alternative to breakthroughs, in fact, in some instances even satisfactory. With an increased role of entrepreneurship and subsequent introduction of innovation, it is likely that new ventures will experience a major development and contribute to a sustainable economic growth in the KRI, regardless of these innovations being radicals or not. In fact, innovations created in developing countries are not necessarily expected to provide newness worldwide and to contribute to global innovations, but rather to be new to a specific region, its sectors, or its businesses (Dahlman 2009, 133). Therefore, very often, developing regions similar to KRI have less potential

to foster innovation and compete in the context of global market (Primo Braga et al. 2009, 12). In the KRI, this can be clearly observed; innovations are highly likely to contribute to the national prosperity while are less likely to wider spread across borders and have larger direct impacts.

Certainly, innovation is one of the profound drivers of economic growth and this growth results from increasing productivity through innovation; building new products, systems and models that enhance business profitability and benefit consumers (European Central Bank 2017). Similarly, in studies (Galindo & Mendez-Picazo 2013, 511; Pece, Simona & Salisteanu 2015, 465-466) carried out for several developed countries, the positive relationship between innovation and economic growth was identified. Innovation, being one of the significant determinants of economic growth, is likely to impact economic growth processes. This impact also involves the substantial role of entrepreneurship in presenting the innovations and enabling profit generation ad business growth.

For innovation to be effective and have a positive impact on economic growth, its broad application is essential to bring advantages and wealth for all people (Warner 2006, 57). Concurrently, the adoption of innovation seems to play an enormous role in turning the applied innovation to a sustainable growth. For adoption, innovations need to be transmitted and communicated to individuals utilizing different channels; this is called diffusion of innovation (Rogers 2003, 5). This study, however, does not focus on diffusion of innovation, nor of innovation adoption by individuals.

Innovation seems to be an answer for various challenges in the world. Ensuring people's welfare, meeting various global challenges, increasing productivity and enabling business growth are all reliant on innovation activities. These activities form competitiveness and development toward economic growth. Today, given the rapid advancement of technology and investment in knowledge, the role of innovation in pursuing sustainable economic growth has increased even more. No doubt, creating an environment that can support innovation shall not be underplayed as with

an innovation-friendly environment productivity and growth are likely to increase. (OECD 2007, 3-7.)

Schumpeter, the “prophet of innovation” as he is being called, describes the role of innovation in driving economic growth as follows:

The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers' goods, the new methods of production or transportation, the new markets, the new forces of industrial organization that capitalist enterprise creates. (Schumpeter 2003, p.82-83.)

According to Schumpeter's (1911, 1950) approach for economic development, entrepreneurship and innovation are two sides of the same coin. He considers entrepreneurs as innovators who create new products, businesses and processes that change markets and create new industries while eliminating previous ones; a method called “Creative Destruction”. This will result in creating a thriving economy and prosperity (Galindo & Mendez-Picazo 2013, 503-504). Thus, a loop of entrepreneurship, innovation and economic growth is formed as a result, where entrepreneurship introduces innovations that will create new markets and further contribute to economic growth. Given Schumpeter's previous description for entrepreneurs being innovators and contributing to economic development, Litan (2012) agrees that most of the disruptive and visible innovations have been created by individual entrepreneurs. Therefore, he argues that start-ups are increasingly demanded to drive economic growth. Certainly, economies with more new ventures have greater chances for an accelerated growth than those with smaller amount of ventures (Schmitz 1989, 722).

One of the most effective ways on assessing the role of innovation in economic growth is to utilize Ansoff's growth matrix developed by Ansoff in 1965, shown in figure 3, that illustrates four different options businesses can use for pursuing growth. For the third strategy; product development, the involvement of innovation plays a major role. By practicing the product

development strategy, a business aims at seeking growth through creating new products or services to the market. Therefore, Ansoff's growth theory reinforces the tremendous role of innovation in driving economic growth. (Trott 2017, 486-487.)

	Current markets	New markets
Current markets	Market penetration strategy	Product development strategy
New markets	Market development strategy	Diversification strategy

FIGURE 3. Ansoff matrix (Ansoff 1956, as cited in Trott 2017)

Due to the country of Iraq ranking low, 154, out of 190 economies worldwide, in terms of forming businesses (World Bank Group 2018, 16), various initiatives and programs to boost region's private sector and to create job opportunities have been, and will be, built in the future too by the World Bank. The ultimate purpose of these accelerators is to ease the burden of business in the region (Saleem 2018).

The arrival of various entrepreneurship and start-up accelerator programs in the KRI have contributed to building an entrepreneurship ecosystem in the region that encourages individuals to start businesses and innovate. My Entrepreneurial Dream, Five One Labs and TechHub are some of the prominent start-up and business incubators in the region. Likewise, various initiatives provided by universities, academic institutions and established organizations in the region have boosted the business environment of the KRI in the perspective of providing assistance and support to become an entrepreneur and innovator. Through providing comprehensive trainings, mentorship and potential funding resources these initiatives have been able to help individuals to take their ideas from concept to reality and build commercially viable start-ups that will boost the region's private sector and

drive economic growth. (Hussein 2016; Rafaat 2017; University of UKH 2016.)

Similarly, a research (Roberts & Kempner 2017) emphasizes the enormous role accelerator programs play in an entrepreneurship ecosystem. They provide help with finding talent and funding sources. In an attempt to compare the role and quality of entrepreneurship accelerator programs in emerging markets versus developed markets, the findings suggest that the accelerator initiatives in the emerging markets are in good shape, in fact, they are as effective as similar initiatives in high-income markets.

The economic outlook for the KRI is on the way of pursuing growth and enhancing. The expected GDP growth for 2018 and forward is anticipated to increase. It is apparent that the KRG is determined to focus on boosting the private sector and improving the business environment in the region in favor of productivity and innovations. The idea of being dependent on oil revenue as a main source of income of the region seems no longer to be valid. (Huff 2017; Kurdistan Regional Government 2016; World Bank Group 2018, 2-3.) Thus, new start-ups and innovations and increasingly required in the KRI to develop the economy. However, it is worthwhile to note that the ultimate impact of innovation on economic growth is highly dependent on the economy type and the innovation systems in it. The more open and competitive economy the larger contribution of innovation activities is to its growth (Uppenberg 2009, 27-28).

2.3 Innovation – a multidimensional tool for business growth

Today, we come across the word *innovation* everywhere and many businesses, startups and enterprises agree that it is indispensable to innovate in order to compete and sustain in today's rapidly changing business environment while providing solutions to ease people's lives. Therefore, having a clear and mutual understanding of the concept of innovation seems to be imperative, yet, according to the available literature, almost elusive. Different individuals and approaches define innovation in a different way and find the term contextual under certain circumstances.

Certainly, innovation has been widely regarded field in academia too and attracted many scholars over years.

Different individuals give diverse definitions to innovation. From some innovation experts' perspectives, innovation could be any new product or service developed to add value to customers, while others think these are not considered as innovation unless they provide financial returns to the businesses. In contrary, there are other point of views that see innovations as any newness, change or update brought into the business whether they are technological, societal or organizational.

In his review with some of the world's leading innovation experts, Skillicorn (2018) presents various definitions for innovation from these experts' perspectives. Innovation is transforming an idea to a product or service that could benefit customers. In fact, it could be any new thing that addresses customers' problems and needs. On the other hand, innovation also needs to be viable and provide returns to business owners. Innovation is also described as "staying relevant" in the constantly changing world when things are uncertain and the need to adapt to changes is profound. One definition to innovation is going beyond merely ideas and reaching to their implementations. Likewise, Roberts (1988, 12-13) describes innovation as a sum of *invention* and *commercialization* where the entire innovation process starts from creating an idea or invention and moving further to the next stage of applying and transforming it into a commercial use. Van de Ven (1986, 604) also emphasizes that "an invention or creative idea does not become an innovation until it is implemented or institutionalized".

"Innovation requires identifying the problems that matter and moving through them systematically to deliver elegant solutions." It is worth bearing in mind that innovations do not necessarily need to be new inventions, in fact, they can be developments or changes to previous creations once they are properly applied to benefit customers and are also viable. (Keeley, Pikkell, Walters & Quinn 2013, 5-6.) Likewise, Bessant and Tidd (2015) believe doing things in a better way or offering new methods to serving existing markets and industries are also considered as innovation (Bessant

& Tidd 2015, 7-9). It is apparent that what matters to innovation is the newness of the offered solutions, whether they are new or improved products, or merely new ways of doing things. The recently published OECD Oslo Manual (2018, 20) defines innovation as a new or improved product or business process that is considerably different from previous ones and that is being implemented to benefit the target users or business units. Therefore, innovation is beyond merely an idea or invention, but involves actual implementation. It is also essential to keep in mind that “innovation occurs in all sectors of an economy; it is not the sole prerogative of the Business enterprise sector” (OECD/Eurostat 2018, 44).

Lundvall (2010, 8-9) regards innovation as a phenomenon that is present everywhere around us. He defines innovation as a new combination of previously existing components and knowledge. This corresponds to Schumpeter’s approach to innovation where doing things in new ways; creating new combinations, is in fact equal to innovating. Lundvall sees innovation as a continuous cumulative process rather than a single occurrence. What highly matters in this process is continual learning and exploring.

Innovation has been also highly related to growth, as ultimately, innovation is about new creations and their launch into markets that will further result in generating earnings and subsequently contributing to advance entrepreneurship, whether the target is new startups or established businesses (Bessant & Tidd 2015, 5, 11; Kuczmarks 2003, 536-537).

Kuczmarks (1995) defines innovation as “a mindset, a pervasive attitude, or a way of thinking focused beyond the present into the future vision” (Kuczmarks 2003, 536).

At its best, innovation is considered to be a way of living, thinking, managing and doing business. The role of senior management and executives in fostering innovation seems to be tremendous as through leadership and corporate culture creating an innovation mindset and pursuing innovation activities can be accelerated. Nonetheless, it is vital for businesses to see

innovation as one of their priorities and recognize the need of dedicating needful resources too feed it. This, however, seems to be challenging as most of the time innovation is associated with risk; having to utilize resources with no returns. (Kuczmarkski 2003, 536-541.)

Bessant and Tidd (2015, 11-12, 37), on the other hand, see innovation highly linked to entrepreneurship and growth. Where there is need for entrepreneurship, there is necessity for innovation too. Innovation is all about creating values to people and the world through inventing new things. These values can be both commercial; growing businesses, or social; doing something good for the world. Likewise, Drucker (2002, 95, 102) believes practicing innovation is one of the imperatives for entrepreneurship and innovation itself is a part of entrepreneurship. Innovation is about creating prosperity for businesses, be it established or new ones, through new creations.

In this paper the concept of innovation is referred to as an idea transformed to a product (good or service), business process or business model that could benefit both customers and businesses while contributing to economic growth regardless of the innovation type being incremental or radical.

There are different perspectives on how innovation is born. Some authors and innovation experts think innovation does not emerge from vacuum, but requires conscious plans, analysis and processes, while others believe it is a momentary inspiration that creates it. Based on the reasonably extensive literature review of this work, the latter one seems to be the case.

According to Drucker (2002, 95-100), businesses, of all sizes and ages, will experience the need to focus on analyzing the opportunities from where innovations are likely to arise. These opportunities are either unforeseen occurrences, new solutions to previous problems, changes in industries, markets, demographics or the way of thinking, or then inventing a new knowledge, be it technological or scientific. Therefore, conscious hard work and systematic processes are required to deliver innovations. Ries (2011) believes assembling teams, building processes and managing them are

crucial for creating innovations, in particular, breakthroughs. Likewise, Christensen (2008, 14) emphasizes that innovations are not born randomly, neither it requires super creative people to create them, rather, following conscious and right plans and processes can result in creating them.

Innovation types

There are plenty of different approaches on innovation classifications. Innovations can be categorized into different types based on several factors. The OECD Oslo Manual (2018, 70-77) categorizes innovation into two main types: innovations by object and innovations by novelty and impacts. The first category focuses on what is being innovated, and hence, involves product and business innovations. Product innovations further encompasses two types; goods and services. The second main category classifies innovations according to their novelty in the markets as well as their impact. Disruptive, sustaining, radical and incremental types of innovation seem to be suitable ones that fall under this taxonomy of innovation.

Another more integrated approach to innovation classification is the Ten Types framework that identifies ten different types of innovations starting from internally focused innovations to customer focused innovations (figure 4). The first four blue building blocks aim at creating innovations in internal processes and activities to produce the needful offerings, whereas the next two blocks in light orange focus on innovating in the key products as well as accompanied services. Innovating in the last four blocks seem to play an enormous role in making the offerings both available and attractive for end users. No certain type of innovation in this framework is considered more important than others, rather, each type satisfies particular needs and comprise an essential part of the whole framework. (Keeley et al. 2013, 16-59.)



FIGURE 4. Ten Types Framework of innovation (Keeley et al. 2013)

It is also evident that combining more innovation types is likely to contribute to a greater business performance and produce fruitful results. Businesses shall not merely emphasis product innovations, but to aim at innovating within other functions too. “The most certain way to fail is to focus only on products. Successful innovators use many types of innovation”. Mixing different types of innovations seems also to be a recipe for success when trying to avoid innovations being copied by competitors. (Keeley et al. 2013, 60-62.)

Satell (2017) identifies four types of innovations based on the problems they solve (figure 5). This compelling approach to innovation classification focuses on how well the problems are defined and how well the skills demanded to solve the problems are defined. Sustaining innovation, by definition, seems to be the most effective type as it requires the highest level of understanding toward the problems as well as the skill domains needed to solve them. To do this, sustaining innovation has effective strategies and tools such as road mapping and design thinking. In the breakthrough innovation, businesses come up with unconventional solutions that turn to be unexpectedly working well, whereas in the disruptive innovation that is highly typical to the startup world, different, easier and more cost-effective solutions are being created for customers.

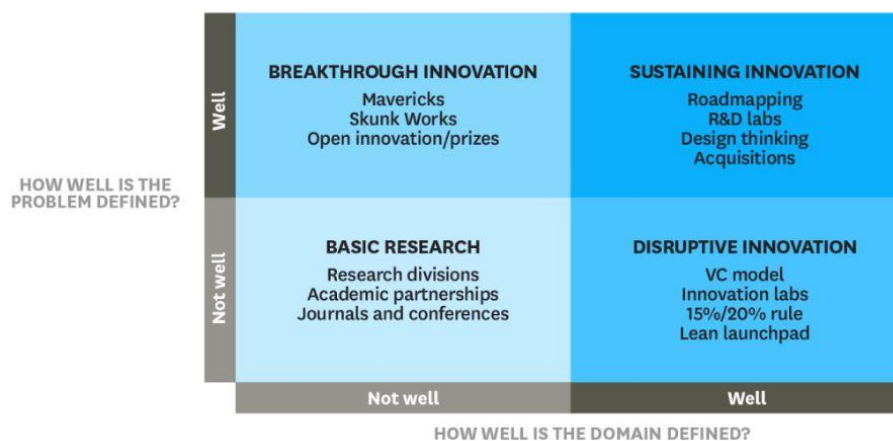


FIGURE 5. Innovation Matrix: four types of innovation (Satell 2017)

The taxonomy of innovation can be also as basic and simple as involving three main innovation types; product, process and business model innovation. No doubt, today business model innovations are rather typical for startups as they possess no established formal structures in their model and are in continuous process of iterating and adapting their business model. Business model innovation is about the way the offerings are put to the market. (Bayer 2017.)

2.4 The characteristics and management of innovation in startups

Although there is fragmented literature about the nature of innovation in the start-up world, the concept of innovation in start-ups has attracted individuals both in academia and professionally. Regardless of the type of innovation pursued, risk taking, living in extreme uncertainty, fast decision making, willingness to change and high level of motivation and energy are the relevant factors to innovation in new ventures (Weiblen & Chesbrough 2015, 66; Silicon Valley Innovation Center 2018).

In contrary, in established businesses innovation activities are less stimulated since factors such as bureaucracy, corporate politics, slow decision making and denial for change hold them back from actual innovation (Weiblen & Chesbrough 2015, 71; Freeman & Engel 2007, 94-95; Silicon Valley Innovation Center 2018). Therefore, today corporates aim at utilizing the entrepreneurial mindset-based innovations available in startups by engaging with them through different ways, such as Corporate Venture Capital and Corporate Incubation, to advance their innovation activities and increase their competitiveness in the market (Weiblen & Chesbrough 2015, 70-71).

Very often, innovations in startups are considered to be disruptive innovations. These innovations, by definition, tend to disrupt existing markets by redefining them or creating entirely new ones. Through the three core principles of disruptive innovation; overshooting, breaking the rules and inventing business models, businesses can provide unique solutions to the market that typically go beyond customers' needs and expectations and

break the rules. Also, the role of business model innovations in creating disruptive innovations shall not be overlooked as innovations are not necessarily always about products and their features, but about how the utilized business models work and how the relevant profit models are formed. (Anthony et al. 2008, 5-9.) Startups are very much likely to practice disruptive innovation as this type of innovation starts small and aims at creating new solutions for low-end and overlooked customer segments that are not being paid attention to by other established businesses. Also, it is vital to keep in mind that disruptive innovations are simple and affordable and do not demand high capital, and hence, are certainly suitable for startups. (Christensen et al. 2015, 47-48.)

Lettice and Thomond (2002) describe disruptive innovation as a "successfully exploited product, service or business model that significantly transforms the demands and needs of a mainstream market and disrupts its former key players". This type of innovation is argued to be discontinuous and revolutionary by nature. Typically, disruptive innovation aims at focusing on a niche market and serving the needs of its customer base while forming a substantial competitive advantage for the business. According to Assink (2006, 226) disruptive innovations most of the time are born through technological innovations or effective business models. This point of view, however, is not an indication for other types of innovation being insignificant or unviable.

While both breakthroughs and disruptive innovations are crucial for startups, yet, the latter one seems to be more relevant to new ventures entering markets. Of course, it is important to distinguish the differences between the two innovation types. Anthony et al. (2008, 9-10) see breakthroughs as larger new solutions that involve major investments and are most of the time practiced by established companies, while disruptive innovations as simple, easy, convenient and affordable solutions that change the markets and are created by startups and entrepreneurs. Figure 6 presents the disruptive innovation model that is practiced in startups.

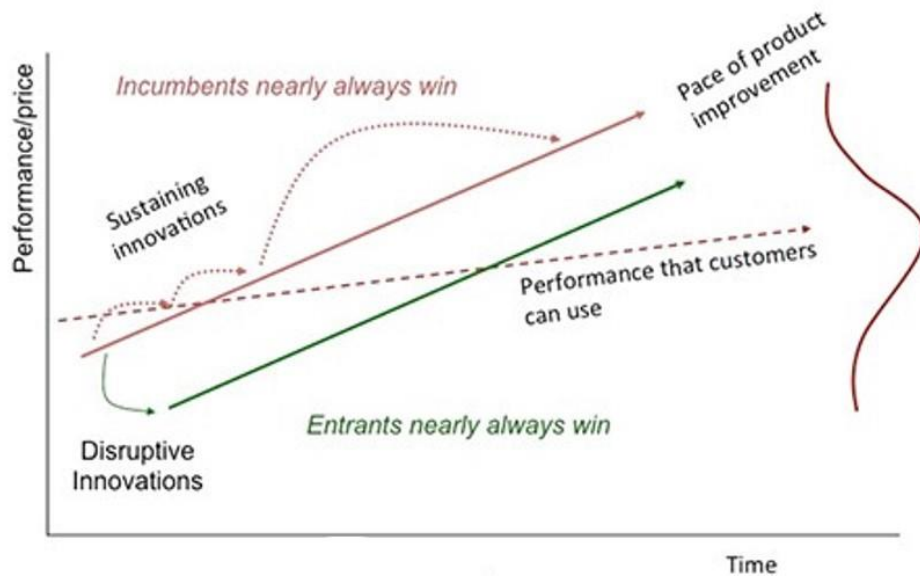


FIGURE 6. Disruptive Innovation Model (Christensen 2008)

This model of innovation increases the chances of startup success in the markets while eliminates the same for incumbent firms. Disruptive innovations are low in investment as well as in features and performance, yet, are able to satisfy the needs of specific ignored segments and gradually build a growing path. In contrary, sustaining innovations are created for profitable customer segments and they are characterized by high prices and utmost features. Innovations in startups are rarely of this type. (Anthony et al. 2008, 17-18.)

Further to the nature of innovation in startups, innovations introduced in start-ups can be both product and service based, therefore, we can state that innovations in start-ups hold characteristics of both types of the aforementioned innovations. Service innovations are typically characterized by intangibility, dispersity and inhomogeneity with great extent of customer interaction involvement (den Hertog et al. 2010, 492; Junarsin 2010, 619). It is due to these features that service based innovations are more complex to manage and measure as their tangibility comes into effect only when the services are experienced by customers. In contrary, in product innovations manufacturing, design and technical inventions are more relevant factors while, similar to service innovation, sustaining customer centric focus in all functions (Dougherty 1992, 179; Trott 2017, 487).

Whatever type of the innovation is, startups see innovation and innovation processes from a different perspective than incumbent ventures. Approaching customers, finding out about their problems and exploring potential solutions are the steps startups take when innovating. Nothing seems to be as important as observing customers and living the actual experiences while aiming at producing an innovation. Therefore, innovations in startups are typically quite customer focused and involve a great amount of experiments as well as awareness of ongoing and future trends. (Kelley & Littman 2001, 25-26, 31-32; Dominguez 2017.)

Innovation management in general, and particularly in startups, seems to be rather challenging. Managing innovation processes demands identifying the innovation dilemmas, factors constraining or driving those dilemmas, and discovering strategies to overcome them (Van de Ven 1986, 591). It is certainly different whether the innovation management concerns a product, service, process or technological innovation. Christensen (2008, xiii) argues that it is important for businesses to realize to put different efforts and resources to different kinds of innovation initiatives and to manage them differently. Implementing suitable innovation metrics is also a significant part of innovation management and shall not be disregarded as they are the ways to discover the actual impact of the innovations pursued.

Additionally, managing innovation processes and projects, be it in small or large businesses, involves attracting talent, building a culture where acknowledgement and acceptance of failures are tolerable, or even encouraged. Finally, setting performance metrics to measure innovation outcomes and their impact on growth are substantial. (Lakhani 2010.)

Given the uncertainty being one of the main characteristics for innovation in startups, it is important for businesses to develop a set of right tools and methods to manage innovation activities. Also, understanding the potential for uncertainties and creating a space for them while innovating seems to be rather significant. Therefore, managing innovation is not merely about the execution of innovations, but also about crafting appropriate strategies on how to explore innovations. (Furr 2014.)

2.5 Inhibitors and drivers of innovation capability

The earlier subchapters of the literature review of this research have emphasized the integral role of innovation in businesses, precisely in startups. Therefore, it is highly important to identify the barriers and drivers that have an impact on building innovation capabilities. Undoubtedly, businesses confront variety of challenges in their way to creating innovations and these challenges can inhibit innovation activities from occurring. Innovation inhibitors and drivers can be exogenous or endogenous. The ultimate purpose of identifying key barriers to innovation is to eliminate barriers or transform them into drivers of innovation for developing effective innovation capabilities (Assink 2006, 216).

According to a modified conceptualization of Kanter's (1989) integrated innovation model, outlined in figure 7, with the support of innovation capabilities businesses will be able to connect the "mainstream" and "newstream" activities that will further result in delivering excellent innovation outputs; products, services and processes. In this model, the "mainstream" activities, e.g. competencies and skills, are substantial to utilize to create innovations needed in the "newstream". (Lawson and Samson 2001, 382-383.)

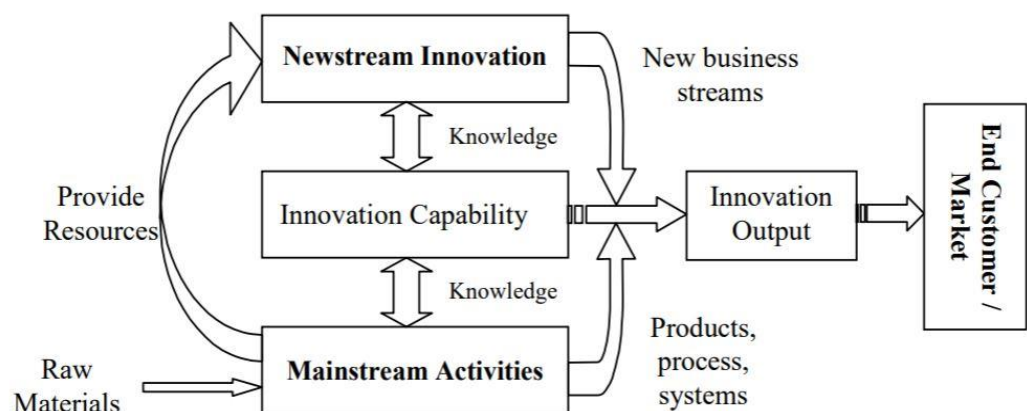


FIGURE 7. An integrated model of innovation (Lawson and Samson 2001, 383).

In their extensive study on innovation capability and its management, Lawson and Samson (2001, 377-388) have developed a model of innovation capability that encompasses seven key elements outlined in figure 8 that affect businesses while developing innovations. These elements; vision and strategy, harnessing the competence base, organisational intelligence, creativity and idea management, organisational structure and systems, culture and climate, and management of technology are the building blocks of innovation capability.

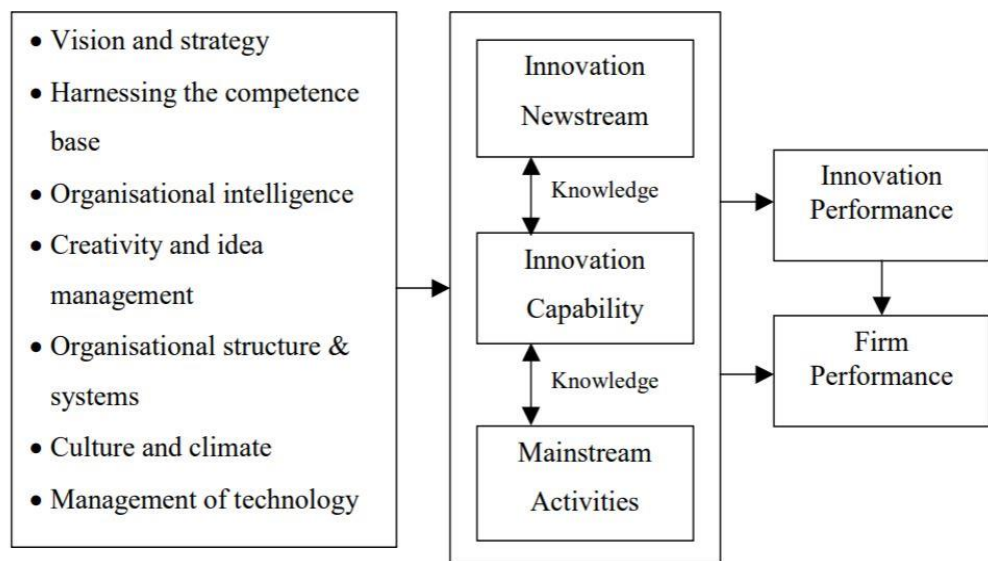


FIGURE 8. A model of innovation capability (Lawson and Samson 2001, 388).

The vision and strategy are lifeblood for every business. Without a comprehensive long-term plan and an effective strategy for innovation, chances for the business to flourish are rather slim. Fruitful innovations also demand utilizing company resources in the right way to benefit the pursued business growth best. For instance, e-business, funding channels and managing resources in general are the functions that are needed. Next, organizational intelligence is demanded to possess the necessary knowledge to manage innovation processes and learn about company stakeholders; customers and competitors. While building these innovation processes, creativity and idea management as well as company structures and systems are rather critical factors since fostering creativity and creating systems to support innovation activities are decisive. No doubt, having a

culture conducive to innovation alongside other systems and structures is substantial. The last constructive part of the innovation capability model presented in figure 8 is technology management that plays a great role in today's business world for creating more effective innovations. (Lawson & Samson 2001, 389-395.)

According to a conceptual model of inhibitors to disruptive innovation capabilities (figure 9), developed by Assink (2006, 228), the key barriers to innovation are adoption, mindset, risk, nascent and infrastructural barriers. Each of these interrelated and interdependent barriers consists of a set of factors that constrain innovation activities. The first group of barriers; *adoption barriers*, is about pursuing merely incremental innovations or minor improvements. The existing products, services and processes are fruitful, and hence, further innovations are too risky and uncertain to pursue. Also, the presence of continuous excessive bureaucracy limits creativity that will further result in reduced innovations. The second and perhaps one of the most critical barriers; *mindset barrier*, both at the individual and organizational level, encompasses problems about discarding previous knowledge and embracing new ones for making better decisions toward greater innovations. This leads to a situation of having a *risk barrier* where a business is not able to explore new opportunities due to finding them too risky. (Assink 2006, 220-224.)

The *nascent barrier* is about lacking curiosity, creativity and "think out of the box" ideas in the business. This barrier constraints the chances to explore markets, identify the unknown market spaces and provide entirely new solutions, those that customers did not even know they wanted. (Assink 2006, 225.) Kim and Mauborgne (2005, 106) have defined this unknown space as a blue ocean where businesses go beyond industry boundaries and will not follow other competitors. Therefore, the blue ocean strategy is, in fact, very much related to the development of innovation.

The final cluster of barriers of the conceptual model presented in figure 9, involves *infrastructural barriers*, both internal and external ones. Without

appropriate regional and, if necessary, global support, innovation activities are not easy to implement. (Assink 2006, 226.)

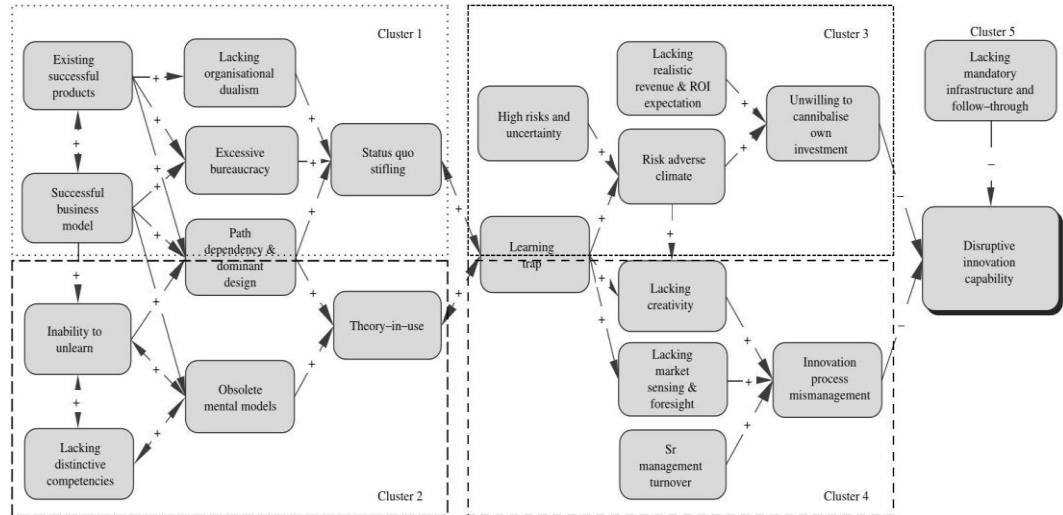


FIGURE 9. Conceptual model of disruptive innovation inhibitors (Assink 2006, 228)

According to a developed synthesis of literature review about barriers to innovation (figure 10), Demirbas (2011) identifies a list of different innovation barriers within four innovation barrier categories: external, internal, environment and skill. The presented innovation barriers concern SMEs in both developed and developing countries.

Authors	External	Internal	Environment	Skill
Piatier (1984)	<ul style="list-style-type: none"> • Technological information, raw materials, and finance • Customer needs, their perception of the risk of innovation, and domestic or foreign market limitations 	<ul style="list-style-type: none"> • Lack of internal funds, technical expertise or management time, culture and systems related, 	<ul style="list-style-type: none"> • Various government regulations, antitrust measures, and policy actions. 	<ul style="list-style-type: none"> • Attitude of top manager to risk or employee resistance to innovation
Acs and Audretsch (1990) Baldwin and Gellatly (2004)	<ul style="list-style-type: none"> • Technological information, raw materials, and finance. 	<ul style="list-style-type: none"> • Financial bottlenecks 		
Ylinenpää (1998)				Shortage of and hindered access to qualified personnel
Ylinenpää (1998)		<ul style="list-style-type: none"> • Missing market know-how 		
Acs and Audretsch (1990) Hadjimanolis (1999) Rammer et al. (2006)			<ul style="list-style-type: none"> • Bureaucratic hurdles • Excessive bureaucracy 	
Baldwin and Gellatly (2004)			<ul style="list-style-type: none"> • Lack of intellectual property rights 	
Silva and Leitão (2007) Tourigny and Le (2004)	<ul style="list-style-type: none"> • The lack of financing • The lack of information about technology • Organisational rigidities 	<ul style="list-style-type: none"> • High cost of innovation • High economic risk • The lack of customers' responsiveness 	<ul style="list-style-type: none"> • Government regulations 	<ul style="list-style-type: none"> • The lack of skilled personnel
Rush and Bessant (1992) Hadjimanolis (1999)	<ul style="list-style-type: none"> • The lack of customers' responsiveness • Lack of tech information • Lack of finances • Risk of innovation • Market limitations 	<ul style="list-style-type: none"> • Lack of internal funds • Lack of accountancy system 	<ul style="list-style-type: none"> • Government regulations • Policy action issues 	<ul style="list-style-type: none"> • Lack of technological expertise • Lack of technological education
	<ul style="list-style-type: none"> • Technological barriers 	<ul style="list-style-type: none"> • 		
Lall et al. (1994)				
Segarra-Blasco et al. (2008)	<ul style="list-style-type: none"> • Insufficient tech information • Lack of external finance • Bad market conditions 	<ul style="list-style-type: none"> • Lack of internal funds • staff perception on risk and cost of innovation 		<ul style="list-style-type: none"> • Lack of skilled labor
Madrid-Guijarro et al. (2009)		<ul style="list-style-type: none"> • Cost of innovation 		

FIGURE 10. Literature on innovation barriers in SMEs (Demirbas 2011)

The empirical findings of Demirbas's (2011) research indicate that the significant barriers to innovation perceived by entrepreneurs are lack of government's policy in R&D and technology, informal economy's negative impact of investment, high cost of innovation, lack of financing sources and lack of qualified workers.

Mindset

In line with the *mindset barrier* cluster of Assink's conceptual model of disruptive innovation inhibitors, both Bessant et al. (2014) and Sandberg and Aarikka-Stenroos (2014) argue that a restrictive mindset can stifle innovation activities and impede businesses from acknowledging and accepting new opportunities. This barrier will certainly constrain top executives and business owners from being open-minded and accepting change. Hodgkinson and Healey relate a mindset barrier to emotional processes, claiming that emotional commitments to existing products, processes or social identities can hinder pursuing further innovation opportunities. (Story et al. 2014)

Above statements about a mindset barrier correspond to Bartnick's (2017, 3) findings that one of the greatest needs in the KRI's startup ecosystem is to learn and develop a right mindset, one that encompasses innovative vision, resilience and willingness to taking risk. Only then, a new aspiring generation of entrepreneurs who has potentiality to innovate, could be built. Likewise, Nasih (2018) believes that the biggest barrier to innovation and entrepreneurship in the KRI is mindset. Entrepreneurs need to see the presence of enormous business chances the region possesses due to the ongoing reform stage of the country after recent crises. Where there are more concerns related to lack of services and solutions to people's problems, there are greater entrepreneurship and innovation opportunities. Therefore, it is essential for entrepreneurs to have a courage to take risk and simultaneously have an outlook for the future when innovating.

Leadership

According to Starbuck (2014) and Baumard (2014) leadership is one of the most important success factors for innovation. It is the leader's attitude and leadership style that can foster or stifle innovation through encouraging exploration of new opportunities in the team or deciding to stay with existing offerings and solutions. (Story et al. 2014)

Ahmed (1998, 39-40) emphasizes the substantial role of leaders, together with the presence of an innovation culture, for stimulating innovation in businesses. As a result of these two strong factors, motivation, energy and enthusiasm are born within the team. It is critically important for leaders to eliminate the idea of “innovation is not essential” within the team and to encourage people to challenge themselves and explore new opportunities.

In addition to the mindset barrier, Sandberg and Aarikka-Stenroos (2014) identify other inhibitors to radical innovations; lack of needful innovation competences, insufficient resources and unsupportive organizational structures as internal barriers, as well as customer resistance as an external barrier. Innovativeness demands creativity, exploration of new ideas and transforming ideas to businesses. Therefore, certain innovation competencies are required that can build an important part of company’s innovation capability. Also, most businesses suffer lack of resources while innovating, in particular, those that practice capital intensive innovations. (Story et al. 2014) The demanded resources, however, can be also in the form of manpower, time or knowledge in addition to merely financial resource.

Sandberg and Aarikka-Stenroos (2014) argue that unsupportive organizational structures can impede looking towards the future and practicing demanding innovations. Occasionally, a factor for constraining innovations does not necessarily come from within the business but is an exogenous one, e.g. customer resistance that involves how well customers will accept and adapt to the innovation introduced. (Story et al. 2014)

O’Malley et al. (2014) emphasizes the significant role of collaboration and network building in enabling innovations. Collaborating and partnering with different institutes and organizations is likely to result in fruitful innovation outcomes. Here, regional initiatives can play a great role in facilitating these collaborations and network buildings. (Story et al. 2014) It is obvious that through exchanging different ideas and having new bloods in teams as well as taking advantage of each other’s resources can lead to promising innovation outputs.

Culture

Certainly, the organizational culture and its impact on innovation has been widely recognized and studied worldwide, however, the impact in startups precisely remains under-researched. Similar to incumbent firms, it is substantial for startups to embrace a culture that can encourage and inspire individuals toward a great performance. Conversely, strong cultures that contain habits, norms and values discouraging innovation and change, shall be omitted from company's practices.

Ahmed (1998, 30-31, 36-38) points out that culture and climate are of central importance to innovation and can play an enormous role in inhibiting or facilitating innovation in businesses depending on the norms and values the culture promotes. A culture that encompasses the following norms is likely to foster innovation:

- Challenge and believe in action
- Freedom and risk-taking
- Dynamism and future orientation
- External orientation
- Trusts and openness
- Debates
- Cross-functional interaction
- Myths and stories
- Leadership commitment and involvement
- Awards and rewards
- Innovation time and training
- Corporate identification and unity
- Organizational structure: autonomy and flexibility

It is worthwhile to note that some of the norms mentioned above, such as freedom and risk taking, dynamism and future orientation as well as innovation time and training are more relevant to cultural practices in startups while the rest of the list are less applicable.

Innovation culture in startups is often different from that in established firms. It is characterized by speed, urgency and chances to accept failure. Creating this kind of a culture and practicing it, is one of the key success factors in driving innovation in businesses. (Blank 2017.)

The perception that innovation is relevant merely to few specific individuals or organizations, seems to be extremely false. Every individual is able to innovate given that there is an appropriate culture and climate to support it. (Kelley & Littman 2001, 13.) Practicing innovation demands a culture that encompasses openness, creativity and communication. Leaders and decision makers must allow creativity to flourish while simultaneously create habits to manage the relevant processes. A culture conducive to innovation is one that also identifies the imperative of following an outside-in, a customer-centric, approach while innovating. This approach aims at observing and understanding customer problems and creating solutions to them accordingly. Often, merely by observing what customers do in practice, can lead to astonishing innovation opportunities. (Kester 2009; Kelley & Littman 2001, 25-26.)

Knowledge creation

Knowledge creation is evidenced to be one of the essential parts for developing innovation capabilities. Managing knowledge and creating knowledge processes in businesses are highly likely to enhance chances for innovation. Businesses with higher knowledge management capabilities will add more value in contributing to innovation activities and developing overall performance. Here, knowledge covers anything from people competencies and learning efforts to various tools and methods for managing data and information. Certainly, managing knowledge alone is not adequate, but a creation of new knowledge is demanded for a long-term survival and innovation. (Ruggles 1998, 80, 87; Darroch 2005, 109-112; Esterhuizen et al. 2012, 362)

Regulation

Although, startups have less formal legal structures in comparison to established businesses, creating an environment conducive to innovation and flexible in terms of regulatory compliance seems to be one of the most impactful matters for regional policy makers to consider. Therefore, regulations and legislations can be considered as one of the substantial external barriers to innovation. Regulation barriers to innovation can involve economic, social or institutional regulations. One of the examples to institutional regulations that is influencing the innovation activities of businesses in the KRI is the lack of appropriate regulation for intellectual property protection. Entrepreneurs often feel their ideas and innovations are not safe and can be copied by other people or businesses. It is, however, important to bear in mind that depending on the innovation type and the business sector, the regulation barrier can turn to be either ambivalent or even positive for innovation. (Kamel & Christopher 2016, 12-13; Blind 2012, 1-4; Bartnick 2017, 4-5)

Resources

In addition to previously addressed factors driving or inhibiting innovation activities, it is important to emphasize the great role of different kind of resources that act as internal factors to form a business's innovation capabilities. Innovation demands different resources to thrive, such as financial resources, manpower, time and potentially equipment too. Without these resources, it is unlikely that businesses could innovate and develop new things. (Mckinney 2016.) On the other hand, however, it is believed that these resources are not always mandatory for innovation to be created. Most of the time, it is the limited budget, manpower and time that can spark innovation as businesses, in particular new ventures, in such circumstances will utilize the limited resources more effectively or aim at innovating even in the absence of these resources by being more creative and innovative. (Kucera 2015; Katila & Shane 2005, 826-827.)

3 RESEARCH DESIGN AND METHODS

The objective of this study is to discover how start-ups in the Kurdistan Region of Iraq innovate, what type of innovations they typically generate and what they identify as potential drivers and inhibitors to their innovation activities. The answers to these questions are aimed to be obtained through asking the research questions presented in chapter one.

This chapter presents and justifies the research approach, methods and tools utilized in this study. The research methods are chosen based on the task and focus of the study.

3.1 Research approach

This study aims to understand and describe innovation in startups in the context of the Kurdistan Region of Iraq. Thus, a qualitative single-case study approach is chosen as the main research approach. The purpose is to describe the region, KRI, as one case and discover the impacts on the region.

Yin (2014, 16) points out that “a case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident.” Case studies are typically used to obtain an in-depth explanation and understanding of a certain social phenomenon by discovering “how” or “why” the phenomenon works. This research strategy can be effective to an extent of generating theories and building hypotheses. Comparing to other types of research methods, such as survey or experiment, a case study provides data with higher quality in terms of describing and understanding a phenomenon more profoundly. Surveys are generally used in circumstances where a measurable data (numerical data) is required or certain outcomes are somewhat predicted, and the experimental method is typically used to scientifically test hypothesis and it also favours control of the events. (Yin 2014, 4, 9-11; Eisenhardt 1989, 548.)

Therefore, given the main research question as well as the sub-questions of this study, the choice of case study method seems to be appropriate.

This study takes an inductive research approach as it is investigating innovation activities of the KRI startups and aiming at gaining an understanding of innovation from their perspective, and hence, it is generating observations to build generalizations, as presented in figure 11. There are three types of research approaches: deductive, inductive and abductive. In the deductive research approach, existing hypothesis and theories are tested to make conclusions while conversely in the inductive approach generalizations and hypothesis are generated through observations and tests. In other words, “inductive reasoning is based on learning from experience”. The abductive approach aims at explaining incomplete tests or surprising facts from where the research starts. (Dudovskiy 2019.)

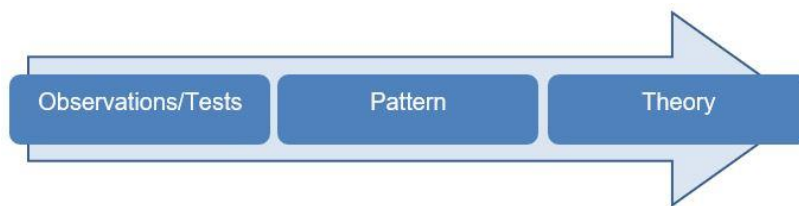


FIGURE 11. Inductive research approach. (Dudovskiy 2019)

Type of data obtained from case studies can be qualitative, quantitative or a mix of both. Therefore, in case studies different methods are utilized for data collection, such as interviews, observations and questionnaires. (Eisenhardt 1989, 534.) In this study, the evidence type obtained is qualitative and data collection method is interviews.

3.2 Research design

Based on the research objective and developed research questions, this study utilizes the exploratory research design where it aims at generating primary data. Given the novelty and unfamiliarity of the phenomenon studied in this research, a high level of uncertainty and a less formal

structure are likely to be relevant to the study. Taken these facts into account, an exploratory research design seems to be an appropriate choice.

Generally, exploratory researches are in favour of flexibility and blurred boundaries as the purpose is to explore new insights and information (Pratap 2018). Exploratory studies are useful when generally there is fragmented literature or knowledge about the subject or phenomenon being studied, and therefore, forming empirical generalizations and theories are valuable (Salk et al. 2001, as cited in O’Gorman & MacIntosh 2015, 82).

According to Creswell (2007), other research design types are explanatory and descriptive. The former aims at explaining occurrences and is typically used to test hypothesis, whereas the latter gives a description to a phenomenon or subject. (O’Gorman & MacIntosh 2015, 82). None of these designs are in favour of the objective of this study.

3.3 Sampling plan and participants

Sampling plan is utilized to determine the selection of participants for the study. This decision is very much dependent on the research question and design of the research. There are three different types of samples; random, convenience and purposive sample. A random sample involves choosing participants randomly to represent the larger population, while convenience and purposive samples are nonrandom and are chosen more deliberately and purposely. Specifically, the purposive sample, where individuals are selected based on certain criteria. (Bui 2009, 142-143.)

In qualitative studies, possessing more details of the participants is expected to increase the credibility and reliability of the study and lighten the key purpose of the study for the readers (Bui 2009, 144). Therefore, the author seeks to validate the choice of the sample group of this study and identify the criteria based on which the sample group were chosen.

The sample chosen for this study is a purposive sample and includes 12 startups from the KRI from different industries across secondary and tertiary sectors as presented in table 1. The respondents are founders or co-

founders of the selected startups. To protect the privacy and confidentiality of the selected startups, it was decided not to mention their names, neither the names of the relevant founders and co-founders being interviewed.

The selection criteria for the sample group encompasses any entrepreneur who has established a start-up business in the KRI during the past 1-3 years and who's business is considered innovative. The innovativeness in the context of this selection is that the startups are Five One Labs' alumni (graduated from Five One Labs' business incubator programs), AEI collaborators or generally observed to be innovative in the region. The selected startups, however, are required to be in a late stage of their business life cycle. In other words, they must have overcome the ideation phase and moved to the implementation phase where they also possess a customer base. The data for choosing the sample group were obtained from the AEI, Five One Labs and author's individual search for innovative and visible startups in the region. Five One Labs, based in the KRI, is a prominent start-up incubator that promotes entrepreneurship within the region and also works closely with the AEI.

TABLE 1. The start-ups selected for the study

Start-up	Sector	Years in business
A	Technology	1
B	Business services	2
C	E-commerce	2
D	E-commerce	2
E	Advertising & Marketing	3
F	Advertising & Marketing	1
G	Fashion	1
H	Fashion	3
I	Hospitality & Event	3
J	Hospitality & Catering	2
K	Social media	1
L	Consulting	2

3.4 Interviews

This study utilizes a researcher-made instrument as a main tool for gathering data. According to Bui (2009, 146-147) this type of measurement instrument is typically developed by a researcher to suit the study's specific needs in terms of answering the research questions. Other ways of measurements are a standardized instrument and data that already exist or are normally collected. The former one is generally used in quantitative researches and is an instrument that is broadly used in the field to address a specific purpose while the latter one is utilized to support collecting new data via utilizing existing data.

In this study, the researcher-made interview questions (appendix 1) were developed by the author based on three sources; literature review of this study, the OECD framework from Oslo Manual for innovation measurement and the expert reviews from the AEI and AUIS.

The Oslo Manual, produced jointly by the OECD and Eurostat, is an international reference guide that provides a common framework for measuring innovation through collecting and analysing data on innovation (OECD/Eurostat 2018, 19).

Interviews are an effective way for obtaining in-depth information about respondents' thoughts and opinions, behaviours, feeling and knowledge to contribute to the topic being studied (McNamara 2018; Turner 2010, 754). There are more and less formal types of interview designs. Gall et al. (2003) categorizes them into three different types that ranges from informal conversational interviews to standardized open-ended interviews. The more informal and flexible the interviews are, the bigger chances a researcher would have for obtaining in-depth information and learning more about the experiences of the participants. (Turner 2010, 754-756.)

This study utilized in-depth and semi-structured face-to-face interviews to collect data from the respondents. Given the topic being studied; innovation, that is likely to be novel and unfamiliar to the participants, the interview method was selected for this study. In particular, a less formal and semi-

structured type of interview, where the researcher can learn more about the participants, and if necessary, present the questions in a different way to help interviewees understand them. Additionally, this interview design seems to be more useful considering the region where the phenomenon, innovation, is being studied.

The interview consisted of thirteen questions and covered four innovation related themes around the presented research questions of this study, both the main and sub questions. The order of the questions and the way they were asked in each interview were not strict. The interviewer aimed at creating an informal and flexible environment during all the conducted interviews. The purpose behind this was to enable interviewees feel comfortable to openly communicate about their opinions and ideas. No doubt, this will result in collecting more valuable and truthful data about the sample group being interviewed. One of the challenges confronted by the interviewer was the incomprehension of interviewees toward some of the questions in the form they were initially presented. This was realized after few interviews. Therefore, the interviewer aimed at asking the questions in a different way to make them clearer and easier for respondents to understand. Due to the novelty of the studied phenomenon to the region, another challenge was the need for creating a highly unstructured and stress-free environment during the interviews to enable respondents freely express their opinions, behaviours and feelings.

The interviews were conducted during January 2019. Each interview lasted 1 - 1,5 hours. A total of 12 interviews were conducted with twelve KRI startups. The number of conducted interviews and their total duration (approximately 18 hours) seems to be sufficient to find an understanding for the topic being studied within this particular case in the KRI. Data were documented through observation and memos. In addition to interviews, data was collected from the websites and social media channels (Facebook and Instagram) of the startups.

Pre-test interview

The selected research measurement instrument, interview questions, was tried out to three respondents that fall nearly under the same category as those chosen for the actual sample group of this study. The obtained data from the pre-test interviews, however, are not considered as part of the findings of this study. Rather, they were utilized to spot any errors and unclarities within the developed questions for further correction and modification before their presentation in the actual interviews.

The pre-test technique is considered to improve validity in collecting and analysing qualitative data. It is utilized to pre-test questions that are complex, sensitive or unfamiliar to respondents. The purpose of this tool is to assist the researcher to ask questions that are understandable and clear from the respondents' point of view rather than the researcher's. (Brown et. al 2008, 116; Drennan 2003, 62.)

After conducting pre-test interviews, it was found out that the questions shall not be developed with an intensive focus on the OECD framework from Oslo Manual. This OECD framework is likely to suit innovation measurement in established companies rather than in new ventures. Very often, the innovation capabilities and activities, as presented in this framework, are not relevant to the start-up world. Therefore, the author modified some of the interview questions to be less focused on the OECD framework.

3.5 Development workshop

As the last part of this research project, a development workshop was carried out in Feb 2019 as a development method of the study (table 2). The purpose of the workshop was to discuss the practical implications of the study and to come up with concrete development plans and suggestions for the AEI curriculum development. In the workshop, the findings of the research were presented, and the practical implications were discussed.

The participants of the workshop comprised representatives from the AEI, AUIS Faculty, local entrepreneurs, government (from Sulaimani Chamber

of Commerce and Industry) and a local business incubator (Five one labs). The selection of participants for the workshop was made by the author and the AEI team. The aim was to involve individuals from different actors of the ecosystem. An email invitation was sent to the participants of the workshop (appendix 2). The event took place at AUIS premises.

TABLE 2. Workshop plan

Goals	Participants	Agenda
<ul style="list-style-type: none"> • Present key findings of the research • Discuss practical implications • Development actions for AEI curriculum development 	<ul style="list-style-type: none"> • AEI representatives • AUIS faculty representatives • Local entrepreneurs • Government representatives • Five one labs representatives 	<ul style="list-style-type: none"> • Purpose of the workshop • Purpose of the study • Methodology of the study • Key findings and practical implications • Workshop discussion

Prior to the workshop, the results of the qualitative interviews were analysed, based on which, the topics of discussions for the workshop were addressed. Below key questions were then developed to be addressed at the workshop:

- As a facilitator, AEI could have a significant role in developing the entrepreneurship ecosystem of the region. What educational initiatives shall AEI run to remove the identified or some of the identified barriers, and what kind of actors to cooperate with to make these initiatives possible?
- How could AEI support the university (AUIS) to improve the balance of preparing students to be both jobseekers and entrepreneurs?
- What researches AEI shall undertake in the future to understand and address the local entrepreneurship and innovation challenges?
- What kind of knowledge transfer initiatives and programs shall AEI perform with different actors in the ecosystem?

- What can AEI do to attract funding for startups and for the whole ecosystem building?
- What kind of activities could AEI perform to promote entrepreneurial and innovation culture in the KRI?



FIGURE 12. Participants at the workshop at AUIS in February 2019

3.6 Data analysis

The data obtained from this study is analysed utilizing content analysis, more precisely, inductive content analysis. Choosing a method for data analysing is highly dependent on the research questions as well as the type of data collected (Bui 2009, 153). Content analysis is a method that can be used for both qualitative and quantitative studies and is a tool to analyse documents by compressing a great amount of text into categories related to the content (Elo & Kyngäs 2007, 108). Cole (1988) states that the content being analysed can be written, verbal or visual (Elo & Kyngäs 2007, 107).

Due to absence of previous adequate knowledge about the phenomenon being studied, the inductive way of content analysing has been chosen to analyse the data collected for this study. Therefore, the outcome of the analysis is to identify categories that will result in discovering about

innovation activities of the KRI startups and drawing up a model of innovation drivers and barriers. According to Hsieh's and Shannon's (2005, 1286) approach to qualitative content analysis, the type of content analysis used in this study is conventional content analysis. The codes are defined during data analysis process and they are being created from the obtained data. One of the ways to form categories from the raw data and report findings is to organize the findings around major and key themes (Bui 2009, 186). This study utilized this approach in reporting its findings. For the interviewer to stay unbiased and neutral, the results were interpreted with an aim of delivering the true meaning of respondents' answers through utilizing direct quotations.

The process of analysis, whether inductive or deductive, involves three key phases that are preparation, organizing and reporting. In the preparation stage the unit of analysis are chosen, and a bigger picture of the whole content is being built. Next, the organizing phase for inductive content analysis goes through three sub-stages: open coding, creating categories and abstraction. This starts with a coding process to organize collected data into meaningful categories or concepts. The last phase of the whole content analysis process is abstraction where a general understanding of the phenomenon being studied is built through categorization. (Elo & Kyngäs 2007, 109-111.)

In the open coding stage of this study, the researcher wrote notes and headings while reading and reviewing the whole collected data. Next, categories were identified according to the content. Finally, in the abstraction stage, a general understanding of the studied topic was built. In this study, the abstract involved a general description of how startups in the KRI innovate, what types of innovations they generate and what are the drivers and barriers to their innovation activities.

In addition to analysing the main data obtained from the qualitative interviews, the next analysis phase comprises analysing and reporting data of the development workshop based on the observations made and the memos taken during the workshop. The first phase of the analysis acted as

the base for constructing the next phase of the empirical part of this research; the development workshop. Finally, the ultimate findings and development plans will be built based on the data obtained from both stages; Qualitative interviews and the development workshop.

4 RESULTS

4.1 Innovation in KRI startups

Motivation for starting up

The interviews started by asking interviewees how they came up with their business idea and what motivated them to start up. The purpose was to obtain a general picture of how these startups were built and from where their whole innovation chain got started. In general, majority of the startups took their inspiration from other business ideas and models explored globally. They experienced a high need for similar services to be provided in the KRI while none of those businesses exist in the region. Additionally, meeting friends and networking have been one of the crucial sources for throwing around ideas and spotting scalable business ideas.

The initial interest for design was there since my childhood, but the actual business idea for my start-up came up through a spontaneous discussion with a friend of mine when we sat down for a coffee.

I was interested in art and video making and also had skills within the field. However, it was my teacher who one day, while having an informal discussion, advised and supported me to further develop my interest and make a business out of it.

I noticed how the online business, like Amazon and Google, was evolving everywhere and decided to establish a similar one in our region too.

The internet world and the use of social media channels has been a great support in establishing and practicing businesses in the KRI. When the business idea is there and no adequate capital to establish the business, the answer seems to be social media. A great number of startups have utilized social media channels for selling their products and services and gaining visibility while possessed no physical space, e.g. a store or office.

I started my business utilizing Facebook and Instagram and making my products home in my own room due to not having enough funds to rent a space and spend on facilities.

Internet and social media are big support for starting and running a business. You don't need to spend too much when you don't know if your business idea can make it through or not.

It is slightly evident that majority of the KRI startups developed their business ideas based on their interest and inspirations, rather than the desire to solve certain problems.

The concept of innovation

One of the primary aims of this study was to find out how entrepreneurs define the concept of innovation and what they understand from it. The general attitude and reaction of the respondents toward the concept of innovation was optimistic. However, it was observed that no high level of familiarity with the word of *innovation* in specific was identified among some of the respondents. Different types of definitions were given to the concept of innovation by the respondents. Given the multidimensional nature of the innovation phenomenon, as studied in the literature review of this work, this seems to be rather understandable. From the interviewees' perspectives, innovation is seen as the outcome of creativity, as a new, different or better way of doing things or as a tool to solve people's problems.

Innovation is doing things in a different way in a totally different context.

Innovation is any provided solution that could disrupt the market.

The purpose of innovation is to fill a gap or solve customer's problems.

Several respondents considered innovation as one of the most essential competitive advantages to businesses, while few others possessed the more outside-in approach and regarded innovation as a necessity for the region and its society to advance and evolve to the global level. As two of the respondents with different point of views stated:

Innovation adds visibility to our business and creates a competitive advantage. By innovating, you stand out from others in the market.

Innovations are meant to keep up with the global change, and we need this in our region now more than ever.

It was a positive matter to observe that a few entrepreneurs acknowledged the emphasize on mindset while defining the concept of innovation. They suggested that, on a great level, innovation is about developing a right mindset as well as using persuasive methods. It is believed that in order to be able to innovate, the very first thing is to possess a mindset that can understand and support innovativeness. One of the respondents puts it this way:

On the most basic level, innovation is creating something new to previously existing ideas to improve products, systems and lifestyles. But at the end of the day, innovation is very much about the mindset.

In general, the interviewees were familiar with the innovation phenomenon and what it involves, however, most of them very often did not explicitly use the word *innovation* to talk about the phenomenon. Rather, they used words such as change, newness, new inventiveness.

Innovation activities and innovation types

Innovations are generated in different ways among the interviewed startups, although, majority of them represent innovation activities that are created more spontaneously and less deliberately. According to several respondents' responses, innovations are generated spontaneously through

insights, brainstorming and ideation. Likewise, networking, socializing and talking to other people seems to be one of the ways to increasing innovation activities in the KRI startups. It was discovered that merely few entrepreneurs generate innovations through conscious plans and processes. This is mostly due to the high cost of pursued innovation activities or lack of resources to conduct those activities. Undoubtedly, these findings are in line with the nature of innovation in startups, as addressed in the literature review of this work. One of the respondents described how he innovates in his startup:

Being able to play with ideas and insights seems to be quite crucial. I never would want to sit down and say I need to innovate. However, sometimes the market forces you to do conscious developmental work to innovate.

Additionally, according to some of the respondents, occasionally a competition and market need put them in a situation where they need to develop innovations to solve certain problems. One respondent stated that sometimes the team just sit down and look around to see what can be developed to fill the gaps in the market.

Some of the respondents take both of unplanned and planned steps to innovate. However, the conscious development work executed for creating innovations remain quite minor. According to the respondents, these developmental activities are for example trivial surveys or collected customer feedback. It was also surprising to find out that two of the respondents get their inspiration for innovating from travelling and spotting new ideas. As one of them stated:

There is a strong need to be in continuous update mood, I love travelling abroad to discover new ideas around the world and see how businesses are done elsewhere.

One respondent suggested that one of the major sources for innovation activities is effective teamwork with help of which his start-up innovates. The same respondent also stated that it is important to do continuous

assessment and follow up on customer experiences of the existing customer base in order to identify what to develop and where to improve. Likewise, another respondent stated:

From time to time, we conduct basic surveys to hear customer feedback to do things better and innovate. We also review our internal processes for any improvements in terms of minimizing efforts and costs, because this will ultimately affect how we serve our customers.

Almost all of the interviewees were willing to take risk to innovate. They suggested that it is quite vital to have a courage to make decisions and go for them, since innovation is all about trying new things and coming up with new things. As one respondent stated:

Yes, absolutely, we are more than willing and ready to take risks. If no risks, there will be no innovation and no growth.

Another respondent stated:

We've been risking during the whole lifecycle of our business, all the way since the beginning. If no risks, no innovation will take place.

On the other hand, two of the respondents were hesitant and felt unsecure about taking risk while innovating as they believe the market and economy of the region is not stable enough to take risks for. As one of them stated:

We try to be quite slow in the process of growing and innovating. We would not want to make big jumps.

From the analysis and statements above, it can be concluded that the startups in the KRI utilize different activities and sources to innovate, either consciously or unconsciously. However, it seems that majority of the innovation activities are pursued spontaneously through different methods such as ideation, brainstorming and networking. On the other hand, the

more deliberate methods utilized are identifying market gaps and customer problems and trying to innovate solutions for them.

According to the data, majority of the startups develop product innovations rather than process innovations. Part of them, however, practice process innovations or the combination of both. From the novelty and impact point of view, majority of the innovation types are either new to the firm (start-up) or new to the market. None of the respondents stated that their innovations would be new to the world. Nevertheless, many respondents stated that the new things they do, have certainly contributed to increasing their competitive advantage in the market. Whereas, the expectation of the potential to market transformation was claimed to be minimal for some startups and higher for others. As two respondents with two different point of views stated:

It is too early to make such judgment. We need to be in the business for few years more to see if our innovations have transformed the market.

Yes, absolutely, my business and innovations has transformed the market and made online shopping available in the market.

The objectives of innovation

The interviewees possessed different reasons for innovating. Each respondent had a different objective for innovation. They, however, shared some common objectives. The innovation objectives, by area of influence, per each respondent is outlined in table 3 according to the classification of business innovation objectives from the Oslo Manual (2018). According to collected data, a great number of the respondents innovate to grow and stay relevant in their field, to add a competitive advantage and/or to satisfy customer needs. Few others, however, have different aims for innovating, such as societal and cultural goals.

I innovate to be visible and gain a competitive advantage in the market, but also to satisfy customers and solve their problems.

To grow and not to stay where you are, you need to do new things.

I innovate because I enjoy it and also want to survive the competition, grow and meet the demand.

I love to foster the culture of reading in the region and want to encourage people to read. I innovate because I want to reach where the rest of the world stands.

TABLE 3. Innovation objectives of the startups, by area of influence

	Markets	Production and delivery	Business organization	Economy, society, environment
Respondent A	x			
Respondent B	x			
Respondent C	x	x		
Respondent D		x		
Respondent E	x			x
Respondent F	x			
Respondent G	x			
Respondent H	x			
Respondent I	x			x
Respondent J	x			
Respondent K	x			x
Respondent L		x		x

Additionally, one respondent had a more ambitious goal for innovating. He stated that his aim of doing new things and innovating is to make his brand more visible, internationalize and go global. According to another respondent, his start-up innovates not only to provide new products and solve people problems, but to bring positive vibes into the community through the created innovations.

4.2 The drivers of innovation

According to the interviewees, courage to make decisions and try new things, taking the model from other international businesses and innovations, and the positive attitude toward providing new solutions to the market are the key internal drivers of innovation, whereas competition in the market and possessing great market gaps are considered as the main external drivers of innovation. Other drivers were also emphasized to have an impact on facilitating innovation in the KRI startups, such as diversified teams and social networks. Figure 13 outlines the drivers of innovation in the KRI startups according to the collected data.

I am not afraid of taking risk and trying new ideas. I have to try new things to be different in the market and provide new things.

I very much look at other business models and business ideas around the world and try to utilize them while I am innovating in my own business.

When there is a high competition in the market, entrepreneurs feel a greater need to produce new products and services and to innovate to win the competition.

This region is full of problems for which solutions need to be created. These solutions are the innovations. The more problems and gaps you have the bigger chances you have to provide new solutions.

Having a diversified team with different members and different opinions and ideas drives inspiration and motivation to innovate.

It is quite important to have a social network to discuss and test new ideas and products to hear their opinions and then decide to put them to the market or not.

According to the data, the factors that drive innovation in the region remain rather limited. One of the main reasons behind this seems to be the novelty of the innovation phenomenon in the region. As one respondent stated that a lot of businesses do not even recognize the need to innovate, rather, they merely come up with a business idea, implement it and rarely aim at developing and innovating.

4.3 The barriers of innovation

The interviewees listed a great number of factors inhibiting, more or less, their developmental and innovation activities (figure 13). The main internal barriers to innovation identified were mindset, lack of qualified workforce and lack of trust among entrepreneurs. Whereas, the key external factors inhibiting innovation practices are lack of networking opportunities for entrepreneurs and investors, customer responsiveness to innovation, lack of appropriate public policy for intellectual property rights, lack of government support for innovation, unstable market and economy, public infrastructure, and finally lack of appropriate finance sources.

Below are some of the statements of the interviewees concerning both internal and external barriers.

I need to recruit a more skilful team to do the job, but it is almost always so hard to find them because we simply don't have them.

Lacking qualified people is a big problem. Especially, when it comes to management skills, soft skills and creativity.

In addition to lack of skills and competencies, I have a problem with lack of loyalty and commitment from my few employees.

Trust seems to be a big barrier among entrepreneurs while networking, collaborating or just exchanging different ideas. To cultivate innovation and discuss innovation opportunities, trust is needed.

I don't know enough people, my professional network is so weak. Networking is needed. Networking events are needed to gather entrepreneurs and maybe other entrepreneurship ecosystem actors too.

Consumers don't understand the value of the work and the new things that I do.

Lack of qualified and skilful workforce was a barrier that all interviewees suggested to hinder their innovation activities to a great extent. They feel that it is always so challenging to find skilled people to do the job. The particular missing skills are teamwork, internal creativity and trustworthiness from the soft skills, and technical expertise from the hard skills. According to some of the respondents, technical skills can act as a strong driver to innovation. It is very apparent how digitalization has changed industries and transformed the nature of business. For the soft skills, some respondents believed it is an area that majority of businesses in this region do not even recognize, and therefore, lack them. One respondent suggested that soft skills are needed equally with hard skills, and that it is very hard to find people equipped with these skills in this region.

According to the data, mindset, as an internal and external factor too, seems to be constraining innovation enormously. Respondents claim that startups need to possess the mindset to see the enormous need for innovation and practice innovation more consciously. Likewise, consumers need to embrace a mindset that can accept change and new things. According to one of the interviewees, people are not open minded enough to accept and value creativity. For them, whether creativity and innovation exist or not, it doesn't matter, as very often they cannot see or value the difference between an old and a new product. Another respondent points out that customers and even the market possess no enough awareness about the ideas and concepts behind our new products. Therefore, they are not able to value them either.

The mindset barrier as an exogenous factor is greatly interrelated to another barrier; customer responsiveness to innovation. Majority of the interviewees recognized the customer responsiveness barrier as one of the biggest obstacles to innovation. They claimed that if customers do not understand, value or accept new ideas and products, they will most likely not be willing to pay for them either. And if there is no demand for innovations in the market, innovation activities in startups are likely to stifle.

Networking in the development of ideas is very rewarding. Several respondents emphasized the importance of having networking opportunities, not only to get to know other people and businesses or exchange ideas, but also to get inspired to innovate. In other words, create networking events that are spontaneous and informal.

Creativity, fun, experiment and imagination are what we need to come up with innovations. We need an environment with no limit to these four rules, and networking events should create that kind of environment for entrepreneurs, not the kind where people come with suit and tie and act too much official.

It is extremely important to network with other people and talk to them to get new ideas and insights, especially with other entrepreneurs and investors.

The KRI has been suffering from the absence of appropriate Intellectual Property (IP) laws and regulations for long. Respondents do not feel safe enough innovating and owning their innovations. One respondent stated:

I do not feel protected, because I feel whatever I will do and innovate, others will be soon doing the same.

Another respondent stated that most of the time entrepreneurs are not encouraged or motivated enough to share their business ideas with investors as they believe investors will very soon steal and adopt these ideas to themselves and implement the innovation without involving the

start-up who initially pitched the idea. This occurs because there are no proper IP rights in the region.

Three respondents mentioned shortage in the region's public infrastructure as a factor limiting or hindering them from innovating. Appropriate transportation and postal service were raised as crucial systems to exist in the region. As one respondent described:

We have very poor transportation services in the region, no proper transportation methods or carriers. We innovated by expanding to other parts of the country to serve new markets and needed carrier services for that. We ended up with using taxi service for each of our delivery to another city, which turns out to be very expensive.

Apart from enhancing public infrastructure and IP laws, the government should support innovation through various initiatives. The interviewees suggested that there is an enormous gap in this area. Entrepreneurs are trying to motivate and inspire themselves to do new things and grow, there is too little, or no government backed initiatives and programs to support startups to innovate and advance. One respondent proposed that government should develop initiatives to build a strong start-up and entrepreneurship eco-system where innovation is fostered. This could further contribute to a long-lasting economic growth of the region, and undoubtedly, increase employment opportunities in the region.

On the other hand, one respondent hesitated whether the government support and involvement could ultimately facilitate innovation or constrain it. From his perspective, in this region, it will be very likely for the government support to include corruption and nepotism. No doubt, in such case, the provided support will not foster innovation in a healthy, appropriate or equal way.

The absence of online banking facilities in the region forms another barrier among others. The banks shall regard internet-based banking services as a strategic requirement. Several respondents suggested that the online

banking system is undoubtedly one of the necessities to possess in the region to further support facilitating innovations, however, we lack this service here. The banks do not provide this service and consumers are certainly not familiar with using such services.

The unstable market and economy of the region is also a significant barrier to innovation activities. Startups will be in a better position to innovate and bring new products and business models to the market if there is a more stable market to welcome them and a more stable economy to make people afford buying them. One respondent stated that although startups in general risk to innovate, the KRI startups will have to risk twice to innovate. Another respondent stated that whenever they want to do or offer something new, they are uncertain whether it will fit in the market or whether the financial situation of the people will allow buying them.

Regardless of the inadequate economic resources being one of the key barriers to innovation, it was rather surprising to discover that some of the interviewees approached this dilemma with a different attitude. They suggested that sometimes it is not necessarily about the need to have funds in order to innovate, rather, it is very much about the willingness, creativity and attitude toward innovation. No doubt, funds complement these innovation activities. One respondent stated:

I often innovate in the internal processes, for example to minimize efforts and costs. This type of innovation does not necessarily require financing.

In general, however, majority of the respondents feel that unavailability of appropriate sources of finance is undeniably hindering innovations in their startups. As one respondent claimed that in order to stay relevant in the field, serve customers better and innovate, financial resources are necessary.

Other raised minor, yet important, barriers to innovation were culture, bureaucracy in government offices and access to international markets. According to the collected data, occasionally culture seems to be hindering

innovation due to some unacceptable products or services that are likely to change certain traditional habits or lifestyles. This, however, has not stopped the startups from innovating. As one interviewee described it:

I need to be careful with what my designs look like, because women here are not necessarily ready or able to dress up according to Western fashion.

Bureaucracy in government offices has been always a big problem in this region. However, according to the interviewees, when it comes to innovation, dealing with government offices is not always necessary. Also, few respondents mentioned the importance of having access to international markets in terms of growing and going beyond borders. The government's support in this, however, seems not to be satisfactory.

Additionally, some respondents addressed the importance of education in driving business growth and innovation. According to them, lack of education can constrain innovation in its own way. They believe that education teaches code of conducts on how to do business. Very often, they have observed that the entrepreneurship ecosystem of the region lacks this significant factor which should be carefully developed.

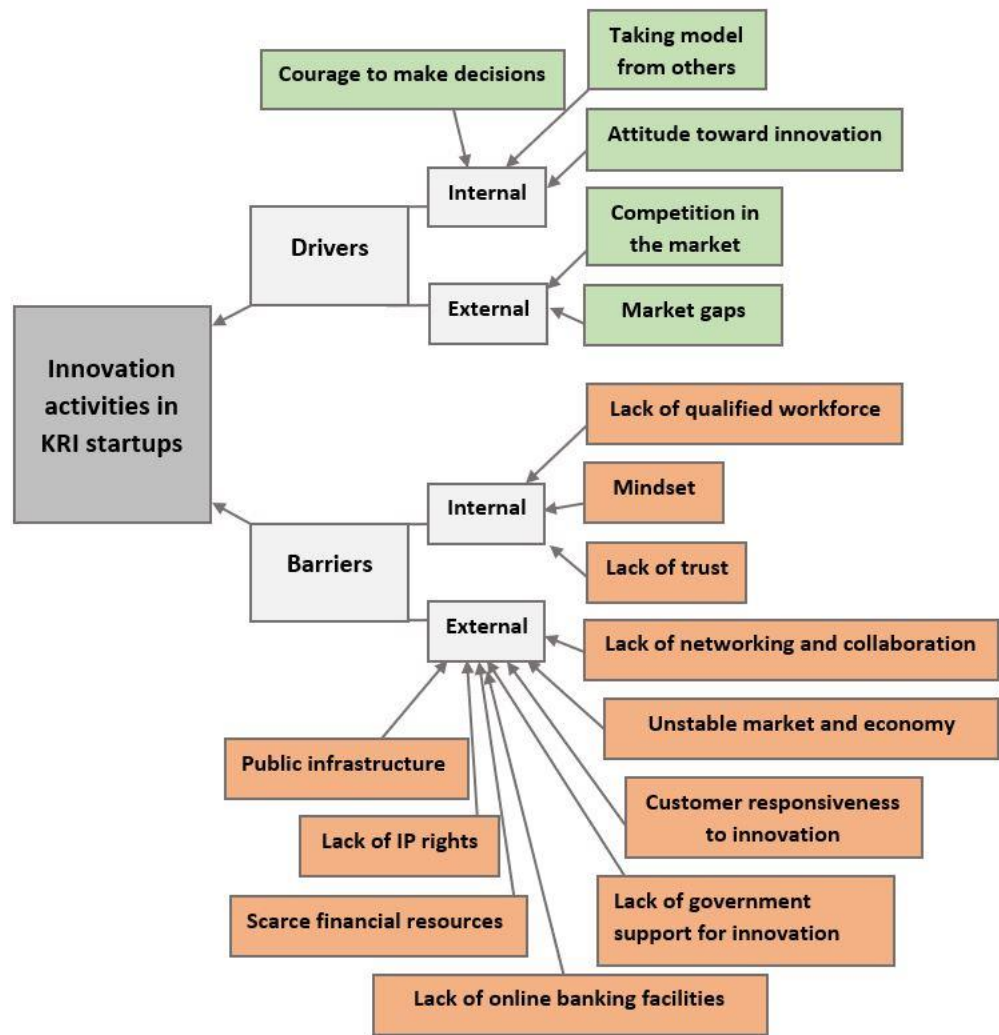


FIGURE 13. Innovation drivers and barriers model

4.4 Synthesis of the results

According to the data obtained from this case study, the KRI startups are kicked off mainly from looking at other business ideas and models around the world and experiencing a need to offer similar offerings and solutions in the KRI. Also, meeting friends and networking have played a great role in throwing around ideas and ultimately spotting scalable business ideas.

Figure 14 outlines the synthesis of the empirical results of this study and summarizes what the KRI startups understand from the concept of innovation, how and why they innovate and what they experience as factors driving and constraining their innovation activities.

There is a controversial understanding towards the concept of innovation among the KRI startups. Different respondents gave different meanings for the phenomenon. Overall, innovation is seen as an outcome of creativity, a new, different or better way of doing things, a tool to solve people's problems, a competitive advantage, or, on the most basic level, as a right mindset development. Fortunately, the general attitude and impression about innovation phenomenon among the KRI startups seems to be positive. Respondents did not resist it, neither felt uncomfortable about the idea of innovation.

The results suggest that KRI startups mostly innovate spontaneously through ideation, brainstorming and insights. Networking and socializing, however, seem to play an enormous role too in generating innovations. Furthermore, risk taking for the sake of innovating seems to be rather typical for the KRI startups. On the other hand, however, few of the respondents do not possess enough courage to take risk, mostly due to some innovation constraints, such as unstable market or unstable economy of the region, or customer responsiveness to innovation.

The types of innovations generated in the KRI startups are mainly product innovations and very little process innovations, occasionally a combination of both types too. From the novelty and impact perspective, these innovations are either new to the firm or to the market, however, not new to the world. According to the data, it is also evident that majority of the generated innovations have transformed the KRI market.

According to the obtained data, the main innovation objectives are to grow and stay relevant in the field, add a competitive advantage, satisfy customer needs, drive societal or cultural change, internationalize and bring positive vibes into the community.

The results stress different drivers and barriers, both internal and external, to innovation activities, as presented in figure 13. According to majority of the respondents, willingness and motivation to develop and innovate is there, but not necessarily the adequate skills to do them or a deliberate need

to innovate. Additionally, the external barriers set an enormous obstacle for innovating. As one respondent pointed out that they are startups, and in the startup world you don't typically lack motivation or willingness to innovate, rather, it is more likely to lack the tools and support with the help of which you can implement those innovations.

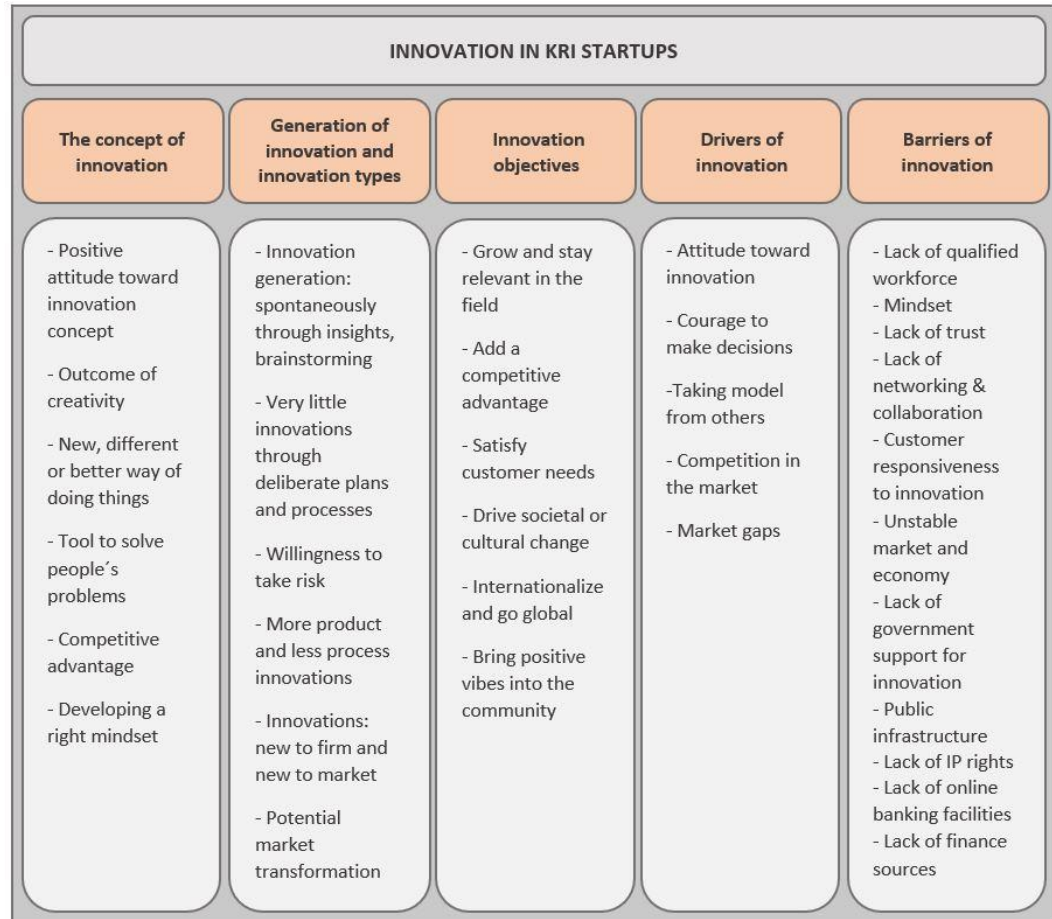


FIGURE 14. Synthesis of the results

4.5 Proposed ideas for innovation enhancement

As their last input in the interview, the interviewees were asked to give a piece of advice on how startup entrepreneurs shall advance their innovation activities in the future. Different valuable thoughts were addressed.

Stay relevant in the field of technology and utilize it in almost all your business innovations.

Knowledge creation is the key. Get as much information as possible. Read, explore the internet world - great ideas come from small things.

Try to always look around, you never know what might inspire you to innovate.

Make sure you are having fun while you do your business and innovate, otherwise you will quit. It is highly unlikely that you will survive if you are not having fun while innovating.

Be aware of the environment where you innovate. KRI is not Silicon Valley, we probably cannot create too much high-tech startups with too much smart applications and programs that might be too hard to be used by the people here.

Startups need to know the WHY, so the purpose of what they are doing and for what reason they are doing it. The only purpose should not be making money and increasing revenue.

The collected data suggest that the KRI startups are eager to innovate and grow, some of them even to an extent of internationalizing and not staying merely within the country. One respondent proposed that dealing with international partners can alone enhance the chances of innovating. Another respondent, on the other hand, highlighted the importance for each startup to seek investors to fund its innovation activities.

4.6 Proposed ideas for AEI curriculum development

In the workshop, practical implications of the study were discussed and concrete development plans and suggestions for the AEI curriculum were developed through group discussions. After a brief review of the goals and purpose of the development project and the workshop as well as guiding questions of the research, the findings of the study were presented.

Next, in concluding the overview of the study and in the second part of the workshop, five questions were posed that aimed at crowdsourcing ideas to support AEI curriculum development:

1. As a facilitator, AEI could have a significant role in developing the entrepreneurship ecosystem of the region. What educational initiatives should AEI run to remove the identified barriers, and what kind of actors should cooperate with AEI to make these initiatives possible?

Participants raised the importance of organizing networking events, start-up fairs and enabling connections to mentor or consulting services for entrepreneurs. Additionally, current unsupportive legal, regulatory and financial services environment were addressed during the conversation. It was acknowledged that it is highly unlikely that these factors would change in the next five years. Therefore, there is a great need for entrepreneurs and educational institutions to promote skills to help entrepreneurs flourish despite the structural obstacles, or opportunities to slowly produce a body of resources. Concerning growing resources, both government officials and entrepreneurs emphasized the importance of and the need for market data and information about numbers and types of businesses in the region. The law for the latter is existing, however, it has not been implemented properly. Participants also stressed the problem of acquiring data due to a complicated process as well as a cost involved in an effort to obtain data. Typically, in other countries around the world these types of data are free and available online, while in the KRI a certain cost and a process of making a request is required for obtaining data. It was suggested that AEI could

help in providing access to data or train entrepreneurs to collect valuable and standardized data on their own businesses.

Finally, participants echoed the need for entrepreneurs, educators and government officials to connect and learn from each other through the following:

- Networking sessions
- Mentorship opportunities
- Co-working spaces
- Data collection on market trends and businesses

With lack of networking opportunities and collaborations being one of the innovation barriers in the KRI according to the results of this study, participants suggested different types of networking events for startup entrepreneurs to be organized, such as startup fair, startup competition and establishing an Innovation Hub by AEI and the region's chamber of commerce. The Innovation Hub could provide mentorship opportunities, co-working space as well as host networking sessions. In addition to providing resources, this type of initiative would inspire entrepreneurs to innovate and connect them with potential investors.

Formalizing and digitizing existing data and making it free and easily accessible for entrepreneurs seems to be next action item on the list. Participants for example recommended working with ThinkBank, a recently-established local market research company that conducts studies and provides concept testing, advertisement and campaign evaluation, and consumer tracking.

2. How could AEI support the university to improve the balance of preparing students to be both jobseekers and entrepreneurs?

This question was posed due to the fact that most of the universities and institutes of the region prepare students to be jobseekers, rather than

entrepreneurs that is very much needed for the region's ecosystem. One convenient way for AEI to contribute to AUIS's mission of producing more entrepreneurs in the future would be developing an entrepreneurship and innovation-based curriculum that aims at benefiting students in business, IT, engineering, and other disciplines to support them to start their own businesses once they graduate. In Particular, it was proposed to develop a course about creativity and innovation for the AUIS curriculum. At present, the AUIS curriculum does not encompass a similar course. Furthermore, AEI could support the university to develop a culture of innovation through helping students to develop business plans during their studies to practice entrepreneurship. This will ultimately result in having a different and innovation-friendly mindset when they graduate.

3. What research could AEI undertake in the future to understand and address the local entrepreneurship and innovation challenges?

The question created a discussion among participants, in particular entrepreneurs, about the significant needs of startups in the KRI, including:

- Cultivation of an innovation mindset
- Government support for entrepreneurs and startups
- Knowledge of and solutions to the root causes of startup failure in Iraq
- Development of models tailored specifically to the needs of regional consumers
- Greater knowledge of consumer behavior in Iraq and the KRI
- Widespread understanding of and efforts to increase creation of online payment systems.

4. What kind of knowledge transfer initiatives and programs shall AEI perform with different actors in the ecosystem?

Participants reiterated the essence of gathering information and collaborating with the public sector to help understanding market demands

and consumer needs. These activities are likely to eliminate some barriers to innovation that the KRI startups are encountering. In particular, the following activities were proposed:

- Encouraging entrepreneurs to collect, standardize, publicize, and digitize more data about their businesses and customer base, and promoting greater public collection and disbursement of data.
- Supporting the development of customer surveys and interviews.
- Working with government institutions such as Chamber of Commerce to publicize success stories of entrepreneurs.

5. What can AEI do to attract funding for startups and ecosystem building in general?

The funding matter initiated an immersive conversation among participants. Many issues in regard to funding were addressed. Lack of appropriate finance sources seems to be a serious problem in the region's ecosystem. Collaborations with government institutions, private sector giants and foreign investors are necessary. Furthermore, one of the issues with local investors seems to be their negative attitude or lack of understanding toward startups and investment patterns. Local investors might have funds to invest, but not the necessary mindset that could understand how and why to invest in startups. AEI should aim at educating relevant actors about investment patterns and raising awareness about the importance of startups and their innovations to the economic growth of the region. Finally, the following suggestions on enhancing funding opportunities were made:

- Provide education on proper investment practices.
- Provide trainings for entrepreneurs and investors on how to develop exit strategies.
- Promote and inform long-term investment options from major institutions.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion of the results

The objective of this study was to discover how start-ups in the Kurdistan Region of Iraq innovate, what types of innovations they typically generate and what they identify as potential inhibitors and drivers to their innovation activities. As a result, and based on the findings, the purpose was to come up with concrete development plans and ideas for the AEI curriculum development that could amplify the innovation drivers and reduce the innovation barriers to foster private sector growth in the region. The AEI, with a unique position at the nerve center of academic life and aspiring aim to contribute to developing the region's entrepreneurship ecosystem, is at a stage of building its curriculum and aiming at obtaining reliable and potentially scientific data about the entrepreneurship ecosystem of the region. This purpose acted as a base and start point of this study.

The results of this study show the interviewed entrepreneurs interpreted and viewed the concept of innovation in several unique ways. Despite of the fact that majority of the entrepreneurs regarded innovation as a new, different or creative way of doing things or a change in mindset, few innovates through deliberate plans and processes or reinvented well-established and effective business processes. While the purpose of majority of the entrepreneurs is to fill existing local market gaps, they do not aim to create new or groundbreaking solutions and technologies on a global scale. The findings also suggest that a very few KRI startup practice process or business model innovations, rather, they focus more on product (product + service) innovations. Furthermore, majority of the interviewed start-up entrepreneurs, directly or indirectly, seemed to have a purpose for innovating. They listed adding a competitive advantage to stay relevant in the field, satisfying customer needs, driving societal or cultural change or internationalizing as objectives to their innovation activities.

According to the qualitative interviews conducted as part of this study, a model of innovation drivers and barriers of the Kurdistan Region of Iraq was drawn up. The model comprises key innovation drivers: attitude toward innovation, courage to make decisions, taking model from others, competitive market and market gaps. The general understanding as well as positive attitude toward innovation among the interviewed KRI startups was rather unanticipated. Due to the novelty and unfamiliarity of the phenomenon (innovation) among the region's entrepreneurs and the region in general, studying such subject was rather sensitive and challenging. The results, however, suggest that start-up entrepreneurs possess great courage to make decisions and feel a deep need to take model from other business ideas around the world to serve their community.

In addition to these internal drivers, owning a competitive market where a great number of businesses have jumped into recently, forms an external factor to make the KRI startups innovate to be better than others and survive. Also, majority of the respondents agree that KRI possesses significant market gaps, and therefore, gives better chances for innovation. No doubt, following the recent political and financial downturns of the region coupled with the reforming stage of the whole country of Iraq have acted as a factor facilitating innovation. Typically, in these kind of emerging markets more new solutions, products and services – more innovations - are needed, be it incremental improvements or breakthroughs. Nonetheless, it was surprising that results did not suggest technological capabilities as a factor driving innovations among the KRI startups. During the past decade technology has been aggressively involved in the region's businesses and have resulted in innovations continuously.

According to the developed model, eleven key innovation barriers was identified among the respondents. Lack of qualified workforce, mindset and lack of trust among entrepreneurs and other ecosystem actors were highlighted as main internal factors constraining innovation activities. All respondents confronted a problem with finding qualified personnel to do the needful job. This result stresses the lack of competencies and skills among the KRI's workforce and addresses a larger concern of the region; the need

for high-quality education. Respondents also agreed that startups need to possess the right mindset to see the enormous need for innovation and practice innovation more consciously. It is true that typically in the start-up world businesses do not possess enough resources to develop plans and processes for innovation activities and devote fund for them. However, according to the obtained data, KRI startups innovate without having more precise plans and objectives each time when they innovate. These plans do not always need to be lengthy and complex, for example it will be enough to have a more deliberate purpose to innovate and plan to measure the outcomes. Furthermore, it was surprising that time was not highlighted among the entrepreneurs as a factor impacting innovation. Being one of the essential factors facilitating or inhibiting innovation, time plays a vast role. This is, however, understandable. Given the fact that KRI startups do not develop conscious plans and processes to innovate, no dedicated time is required for innovation activities either.

Lack of networking and collaboration opportunities seemed to be one of the visible factors hindering innovation among the interviewed entrepreneurs. Respondents want to get to know new people (entrepreneurs, investors, mentors etc.) and socialize with them to exchange ideas and discuss various business, funding and learning opportunities. Undoubtedly, with networking being one of the essentials for today's businesses and entrepreneurs and being considered as a form of continuing education (Clark 2014), practising it becomes a must.

Given the recent crises and challenges of the region combined with region's geopolitics, instability in the region's market and economy are rather typical. This has formed a vast barrier to innovation activities in the business sector. The interviewees stated they often hesitate and feel insecure when aiming at producing new products or services as they do not know if the market as well as the financial situation of the people are stable and suitable enough to welcome the innovations.

The results show that startup entrepreneurs are quite dissatisfied and unhappy with the scarce government support for innovation. Apart from

absence of various initiatives fostering innovation both mentally and financially, a significant shortage in public infrastructure and public policy were identified. Regardless of the fact that KRG has recently invested heavily in the region's infrastructure (Miran 2017), shortages still exist, such as transportation and postal services that seem to play a significant role in supporting startup innovations. The widely discussed problem about the lack of appropriate IP rights in the KRI, is discouraging startup entrepreneurs from innovating as they do not feel safe owning their innovations. According to their statement during the workshop, the representatives from the Chamber of Commerce, however, believed it is more about the enforcement of the law rather than the content of the law itself.

Along with aforementioned innovation barriers, lack of appropriate source of finance has impacted innovation activities of the startups enormously. Although some respondents agreed that innovation is not always about requiring funds, yet, fund is supporting innovation activities and increasing chances for innovation. There is almost always cost related to innovation, and the KRI clearly lacks sources of financing. There are too limited foreign investors to provide grants and funding to the KRI startups. Additionally, local investors typically do not possess a mindset that can understand the startup world, neither the investment patterns in general. Funding opportunities from the region's banks are also missing. It is significantly important for the government to help encouraging bank lending for startups to enable funding opportunities in the region.

According to the identified innovation barriers, it is apparent that the KRI's environment is quite hostile to innovation. A great support to innovation and startups is needed not only from the government side, but other institutions of the ecosystem too. Educational and research institutes, corporations and funding organizations play an enormous role in taking initiatives to support startup innovations. It is evident that these different institutions of the ecosystem can all contribute in supporting startups to grow (Vekic & Borocki 2017, 491). AEI, as an educational institute can contribute to this mission

and in terms of this study, can highly benefit from its findings to undertake useful steps in developing its programs.

The workshop discussions resulted in exploring not only the identified innovation dilemmas according to the findings of this study, but other matters as well, such as lack of scientific and proper data about market trends and businesses in the region and access to data in general. According to the discussions, solid ideas were developed for the AEI curriculum development: networking sessions, mentorship opportunities, “Innovation Hub” in cooperation with government (Chamber of Commerce). These programs are very likely to boost innovation among startups and support entrepreneurs to understand innovation better and engage in innovation activities. Also, being part of an educational institution, AEI can enjoy great opportunities in making long-term impact on cultivating innovation culture and mindset in the next generation by cooperating with the Business Department of AUIS and designing courses about innovation and creativity.

5.2 Answers to research questions

The literature review about the innovation phenomenon as well as the startup concept formed a foundation for understanding the topics being studied. The theoretical concepts combined with practical knowledge obtained from the empirical findings of the study, contributed to answering the research questions of this study.

The answer to the main question of this study, *“How can start-ups in the Kurdistan Region of Iraq enhance their innovation practices and foster private sector growth?”* is essential in discovering ways to support and motivate startups to overcome barriers to innovation. According to information obtained from the literature review, innovations are necessary for startups to ensure their survival and serve the community, startups are necessary to boost private sector, and finally, a thriving private sector contributes to the overall economic growth. To be able to innovate, startups need to possess innovation capabilities as well as identify the factors

facilitating and inhibiting innovation capabilities. The AUIS Entrepreneurship Initiative (AEI) as an entrepreneurship accelerator can play a fundamental role in supporting startups to advance their innovation practices by amplifying innovation drivers and reducing innovation barriers.

The answer to the first sub-question of this study “*What does innovation look like in the KRI startups and what types of innovations are generated and how?*” was obtained through the empirical findings of this study. Based on the results, the KRI entrepreneurs regard innovation as a competitive advantage, a new, different or better way of doing things, or a change in mindset. Merely few of them viewed innovation as a tool to solve people’s problems. Regardless of the fact that the concept of innovation is being somewhat well adopted, only few startups innovate through deliberate plans and processes or reinvent well-established and effective business processes. The results suggest that the innovation types generated by the KRI startups are more of incremental, and to some extent disruptive, product innovations rather than breakthroughs or radical solutions and technologies on a global scale. Furthermore, adding a competitive advantage, satisfying customer needs, driving societal or cultural change or internationalizing were listed as key objectives of innovations.

To answer the second and third sub-questions of this study “*What are the drivers (internal/external) of innovation?*” and “*What are the barriers (internal/external) to innovation?*”, a model of innovation drivers and barriers was developed as a result of obtained data from the qualitative interviews. The list of innovation drivers and barriers are outlined in figure 13 in chapter four of this work.

5.3 Evaluation of the development project

This study relies on a qualitative case study supported by the theoretical framework. Given the phenomenon and the sample group being studied, the methods utilized in this study for obtaining data are relatively reliable. If the research will be repeated using the same methods, similar results are

likely to occur. It is, however, important to emphasize the role of researcher in producing slightly different results. The author of this research aimed at making the interview environment very relaxing and presenting the questions in a more clear and understandable way. This seemed to be critically important due to the novelty and sensitivity of the phenomenon being studied, particularly in the Kurdistan Region of Iraq that is one of the developing regions. If the research will be repeated at a different time or under different circumstances, such as various political or financial crises, it is likely that the results will vary.

The validity of this research was ensured through a careful preparation and design of the study, including data collection methods. The interview questions were developed with a precise focus on what information would be useful to serve the purpose of the study and to answer the developed research questions. Although the questions were tried out to three respondents to test their validity and relevance as well as to spot potential errors, the researcher noted that some of the questions were not of relevance to the main objective of the research as the research progressed. More precisely, the focus on the Oslo Manual 2018 innovation framework in the development of some of the questions turned out to be less useful. The utilized framework made some of the questions more complex to understand. Additionally, from the author's perspective the framework would better suit studying innovation in more established firms rather than in new ventures. The validity of the study was also improved through aiming at the researcher's accurate and flawless interpretation of the results.

The workshop was planned properly and therefore resulted in fruitful discussions. It served the overall purpose of the study in terms of coming up with concrete development plans to support AEI in developing its curriculum to support entrepreneurs to innovate in their businesses and grow. The discussions were quite open and flexible, yet, the workshop leader aimed at keeping track of the topics discussed to remain within the framework of the posed questions and overall topic of the study. Different thoughts and insights from different actors in the ecosystem were brought to the table. As a result, a better and a more holistic picture of the

researched topic and problems were formed. It also turned out that two hours was not enough for the workshop as participants were highly engaged in the discussions and therefore the event were extended by half an hour.

Regardless of the careful preparation and design of this research, certain inevitable limitations were confronted. Lack of earlier studies in the research area formed an enormous limitation to this study. According to author's knowledge, no prior research studies are found on the same topic for the same region. Only a few studies have been conducted about entrepreneurship and the ecosystem, however, not about the innovation phenomenon. This certainly made the understanding of the research problem more challenging due to inadequate information on previous studies. Another limitation was the understanding of some subjects in the sample group toward the interview questions. Due to the novelty of the phenomenon (innovation) being studied, some respondents experienced difficulties in understanding some of the presented questions and concepts. Additionally, scope of discussions formed one of the significant limitations of this study. The scope and depth of discussions in this study remain narrower compared to if the study was conducted by advanced scholars.

If the study was conducted again, the researcher would have chosen more empirical data collection methods to enrich the outcomes and provide better quality to the research. Using one empirical data collection method (interviews), did not allow for obtaining information about demographic of the sample group. A combination of a qualitative and quantitative approaches would have resulted in more high-quality findings. For example, a quantitative survey to a larger group of the region's startups could have resulted in a better selection of the sample group for the qualitative interviews. A preliminary survey could have served in providing information about general opinions and thoughts on the topic being studied as well as potentially recognizing more innovative startups from less innovative ones.

Overall, the utilized sources of data, both the theoretical knowledge, the selected empirical method and the development workshop all together

contributed in answering the research questions of this study as well as developing concrete plans and suggestions for future implementation.

5.4 Recommendations for future development

Although, the Kurdistan Region of Iraq is not a cradle of entrepreneurship and innovation, it seems to have a promising near future in terms of private sector growth and flourishing entrepreneurship. From the author's perspective -also supported by the findings of this study- the trend is positive, and entrepreneurs are making a good start on realizing the importance of innovation. Developing a deeper understanding toward the fundamental role of innovation in the economic growth, however, seems to be lacking among the start-up entrepreneurs. Furthermore, to cultivate innovation in their activities and to build a culture of innovation and an innovation friendly mindset, more efforts are demanded. Therefore, this study aimed to discover what are the patterns for innovation generation in the KRI startups and what are the relevant innovation drivers and barriers. By strengthening the drivers and eliminating the barriers, it will be likely for the startups to adopt innovation more in-depth and make it their daily practice.

The qualitative interviews and the workshop involved in this study provide various useful development plans and suggestions that AEI could utilize for its future curriculum development. The workshop results suggest organizing networking events, mentoring, coaching and group counselling to support the region's start-ups to innovate and grow. Establishing an "Innovation Hub" in cooperation with the Chamber of Commerce could accommodate various events such as start-up fairs, mentorship programs and networking events bringing together entrepreneurs and investors.

Furthermore, with data collection on market trends and businesses being one of the raised issues during the workshop, it was suggested that AEI could support in formalizing and digitizing existing data and making them free and easily accessible to entrepreneurs. Also, supporting entrepreneurs in terms of providing them with scientific and appropriate data, it was

proposed that AEI could in the future undertake researches addressing cultivation of innovation mindset, government support for startups, knowledge of consumer behaviour in the region, knowledge of and solutions to the start-up failure in KRI as well as understanding and developing solutions for online payment systems.

Furthermore, the workshop participants emphasized the importance of creating the next innovative generation in the region. As an educational institution, AUIS could play an enormous role in this. To support AUIS in improving the balance of teaching and preparing the university students to be jobseekers and entrepreneurs, AEI could work with the faculty to develop new courses about creativity and innovation.

Lack of adequate finance sources being one of the critical barriers to innovation in the KRI, several solutions to the problem were addressed during the workshop. It seems that the bigger picture about lack of fund is not in fact lacking funds in the country, rather, it is about learning how, why and when to fund. Local investors in the KRI are not adequately familiar with investment patterns, neither with the start-up world. Therefore, suggestions for AEI to provide education on proper investment practices and to promote investment options from major institutions were made.

Additionally, based on the results of the qualitative interviews, the development workshop as well as the author's personal opinion, further development ideas are suggested for the AEI curriculum development, such as creating a community for leaders, entrepreneurs and innovators, innovation pitch competitions and developing a guideline for business innovation. Creating a regional start-up community to motivate, educate and connect entrepreneurs and business leaders is substantially important for the KRI. Entrepreneurs could learn from each other, get inspired to motivate as well as learn from each other's failures. Startup innovation pitch competitions will also motivate entrepreneurs to come up with new innovations and work hard to win the competition and potentially seed funding. Furthermore, creating an easy and clear document that involves guidance about business innovation could support entrepreneurs to have

an overview about the phenomenon and about applying it to both support their business and contribute to the region's economic growth.

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APPENDICES

APPENDIX 1

Qualitative interview questions for start-up entrepreneurs

Theme 1. The meaning, types, objectives and generation of innovation

What does innovation look like in the KRI startups and what types of innovations are generated and how?

1. How did you end up with your startup business idea?
2. How do you define the concept of innovation?
3. How do you generate innovations in your startup?
4. Which activities does your business perform in pursuit of innovation?
5. What types of innovations does your business generate?

Innovation types by object:

6. Are you ready to take risks to innovate?
7. Why does your business innovate; what is your innovation objective?

Theme 2. Innovation drivers

What are the drivers of innovation?

8. What are the internal factors facilitating innovation in startups?
9. What are the external factors facilitating innovation in startups?

Theme 3. Innovation barriers

What are the barriers to innovation?

10. What are the internal factors inhibiting innovation in startups?
11. What are the external factors inhibiting innovation in startups?

Theme 4. Innovation enhancement

12. How does innovation benefit the private sector, and on a broad scale, the regional economy?
13. What steps do you propose/what must be done to encourage innovation and enhance innovation activities in the KRI startups?

APPENDIX 2

Email invitation to workshop participants



Thu 2/14/2019 3:43 PM

AUIS Entrepreneurship Initiative <aei@auis.edu.krd>

Invitation: Research Discussion - Innovation in Startups in the Kurdistan Region of Iraq Wed. 5PM

To AUIS Entrepreneurship Initiative

Bcc rava.khorshid@auis.edu.krd

Dear all,

The AUIS Entrepreneurship Initiative would like to invite you to a workshop with Rava Khorshid, Business Development Manager for the Professional Development Institute, to discuss her research findings on innovation in startups in the Kurdistan Region of Iraq (KRI). The workshop will take place on **Wednesday, February 20 from 5-7PM in the boardroom.**

As a candidate in the Master of Business Administration program at Lahti University of Applied Sciences, Rava has conducted research on innovation in startups in the KRI through a variety of interviews and secondary sources in support of her thesis. The workshop will serve as a means by which to discuss her findings and determine and evaluate major enablers and inhibitors of innovation in regional startups. It will focus on main points, key findings, and practical implications for AEI goals and curriculum development. We look forward to active participation from members of the AEI team, AUIS faculty, local entrepreneurs, and government (SULCCI).

Please RSVP to aei@auis.edu.krd if you are interested in contributing.

We look forward to your participation.

Sincerely,

The AEI team