Determinants of Opportunity Recognition in the Pattern of Agricultural Tech Startups in Northern Provinces of Iran

Mohammad Okhli[1], Hossein Didehkhani[2*], Mohammad Sharif Sharifzadeh[3] and Seyed Mohammad Reza Hosseini[4]

[1]*Department of Entrepreneurship, Aliabad Katoul Branch, Islamic Azad University, Aliabad Katoul, Iran*
[2]*Department of Industrial Engineering, Aliabad Katoul Branch, Islamic Azad University, Aliabad Katoul, Iran*
[3]*Department of Agricultural Extension and Education, Agricultural Management Faculty, Gorgan University of Agricultural Sciences and Natural Resources, Gorgan, Iran*
[4]*Department of Economics, Aliabad Katoul Branch, Islamic Azad University, Aliabad Katoul, Iran*
[*]*Corresponding author Email: h.didehkhani@gmail.com*

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Abstract

Today, the role of start-ups in the new approach to the modern economy has received much attention. The purpose of this study was to present a model for identifying entrepreneurial opportunities for technology start-ups in agriculture in Northern Provinces of Iran. The statistical population consisted of 318 founders and executives of tech start-ups. Using stratified random sampling method, 130 samples were selected. The data collection tools in this section included a researcher-made questionnaire containing a set of identified markers for effective factors in identifying opportunities. The face and content validity of the questionnaire was confirmed by experts' opinions and its reliability was confirmed by Cronbach's alpha (0.958). The dominant statistical method was structural equation modeling using partial least squares method implemented with Smart PLS software. The results showed that in the process of opportunity recognition, individual capability and previous knowledge on social network and social network on entrepreneurship ecosystem as well as entrepreneurship ecosystem have positive effect on opportunity recognition performance and on opportunity recognition performance on opportunity development, but the impact of prior knowledge and individual capability on the entrepreneurial ecosystem and the impact of the entrepreneurial ecosystem on opportunity development were not confirmed. According to the results, a model has been presented to identify the entrepreneurial opportunity of tech start-ups in agriculture.

1. Introduction

Recognizing the opportunity is at the heart of entrepreneurship and is an important step in setting up and launching new businesses. Opportunity recognition is defined as the ability to identify a good idea and transfer it to the business in a way that generates added value and revenue (Corbett, 2007). Technology entrepreneurs seek to create and gain economic value by exploring and exploiting technology-based solutions (Petti, 2009). Fundamental to this concept is that technological entrepreneurship seeks to bridge the gap between technology development and business creation (and generally value / profit) (Rezvani et al., 2008 Quoted by Rezaei et al., 2018). On the whole, the importance of technological entrepreneurship can be attributed to the simultaneous importance of low-cost entrepreneurship and technology, the ultimate product of which is the creation of a growing field of technological entrepreneurship with the goal of industrial renewal and economic development (Dahlstrand, 2007). Start-ups are the focus of the new approach to the modern economy. The purpose of these companies is to pay attention to scientific and

technological research achievements from the production process to the market, to respond to social needs and to transfer technology to idea owners in socio-economic environments. By definition, a start-up business is an ad hoc organization that aims to create a repeatable and scalable business model (Nadafi & Ahmadvand, 2018, quoted by Rice, 2011).

Small and start-ups are the driving force behind the community's economy. Small and start-ups are the driving force behind the community's economy. Technology and electronics also play an important role in start-ups. Market development, cost reduction, supply chain improvement, increased working hours, customization, design of business models, market access, logistics efficiency and improved customer relationship are unique features of e-business. These advantages are especially important for emerging firms (Imankhan, 2018). Technology startups are small, newly established, independent companies that focus on commercializing research results and developing private and public laboratories. A study by Dahlstrand in Sweden in 2007 identified the establishment of new technology-driven firms as influenced by two categories of external and internal factors. External factors include business knowledge, skilled workforce, specialized inputs, capital, knowledge overflows, local customers and learning processes, and internal factors (factors required for a tech entrepreneur) include: marketing knowledge, technical knowledge, Training and work experience (Hejazi, 2014).

To this end, tech start-ups in agriculture are the epitome of knowledge-based entrepreneurship and technological ideas, including identifying opportunities arising from technological growth or creation and pursuing new ideas from technical knowledge with the acceptance of relevant risks in order to present An innovative product or service based on technology in the agricultural sector.

Given that opportunity recognition is the first and most important step in entrepreneurship, identifying the factors affecting the recognition of entrepreneurial opportunities in important areas of the economy, such as agriculture, is very important. Introducing influencers and explaining why influencers identify opportunities for start-up entrepreneurs show how they can identify entrepreneurial opportunities. Informing these individuals how to identify entrepreneurial opportunities will strengthen their ability to identify entrepreneurial opportunities and gain more opportunities in their respective fields.

Emerging agricultural businesses play an important role in the success of a country's economy in terms of job creation, development of innovation and exploitation of new opportunities. Thus, the tendency for entrepreneurship in agriculture has spread around the world.

Despite the activities of university entrepreneurship centers and other related programs in the last few years, the rate of agricultural entrepreneurship activities and the number of start-ups in Iran are lower than the global average (Monfared et al., 2011).

Lack of financial resources, inadequate support policies, and inadequate infrastructure make it difficult to identify entrepreneurial opportunities such as technological entrepreneurship opportunities in agriculture. Climate diversity, the availability of oil resources, the possibility of generating low-cost and early productive employment, and the relative advantage of producing and exporting crops are among the capabilities of the agricultural sector.

These benefits have created numerous opportunities for the sector in the diverse fields of production, conversion, distribution and processing of agricultural products. As a result, identifying factors that can facilitate the identification of entrepreneurial opportunities in the agricultural sector seems useful. In this regard, providing a model in which field studies and statistical analysis can be useful to agricultural and entrepreneurial scholars and researchers.

The goal of this research is presenting a model to identifying business opportunities in the agricultural sector to make this sector one of the most profitable economic sectors. Therefore, this study examines businesses that have taken advantage of technology opportunities and have either set up or created opportunities or used them in the form of technology transfer contracts. Individual characteristics are one of the most important factors in identifying entrepreneurial opportunities.

Ardichvili et al. (2003) in a study entitled "investigating factors affecting the process of identifying entrepreneurial opportunities among top selected entrepreneurs" showed that personality traits including creativity were positively and significantly related to the recognition of entrepreneurial opportunities. The results of Wongpinunwatana and Panchoo (2014) showed that social network had a positive and significant relationship with self-efficacy. In this study, they consider social network as one of the most important variables affecting self-efficacy.

Some researchers believe that one's social skills have a significant impact on the recognition of entrepreneurial opportunities. In other words, people with high social skills are more likely to present and develop new ideas because of their greater

communication with out-of-business businesses as well as social interactions (Tang, 2009).

The results of the Jawahar and Nigama (2011) study showed no relationship between social networking and competitiveness of individuals. Social networks are divided into two parts: strong relationships and weak relationships. Strong relationships represent entrepreneurial relationships with family and close friends, and usually not for economic purposes. Strong relationships represent entrepreneurial relationships with family and close friends, and usually not for economic purposes. An entrepreneur's presence with family and friends can help him overcome financial and managerial constraints and problems. These strong relationships not only provide the emotional support of the family to the entrepreneur, but also provide the opportunity for the entrepreneur to gain useful and reliable information without spending much time searching (Greve, A., & Salaff, 2003). Undoubtedly, entrepreneurial individual capabilities are crystallized in forming an efficient social network. Many studies on opportunity recognition have also suggested that entrepreneurs who have been successful in identifying opportunities have good business information (Talebi et al., 2013). The results of Ramezanpour et al.'s (2014) study showed that there is a positive and significant relationship between individual knowledge and entrepreneurial opportunity recognition. In their research, Wang et al. (2013) emphasize the importance of entrepreneurial knowledge as far as recognizing entrepreneurial opportunity as a kind of knowledge acquisition and learning process. Increasing people's experience and knowledge as well as promoting entrepreneurial awareness and marketing education such as awareness of customer needs and awareness of proper customer service, the ability to identify and predict the right market, given the awareness From market supply and demand trends, entrepreneurial awareness can be heightened and opportunities identified in the field of Iranian and Iranian businesses, which are essential components of the entrepreneurial process (Talebi Kouhestani et al. , 2018). The results of Wharton & Brunetto (2007) research show that experience in the entrepreneurial process has a positive and significant relationship with social network. Such research means that prior knowledge can extend social interactions or, in other words, influence individuals to expand or improve the quality of their social network. Also, social networking is the active interaction of the individual with a set of individuals and organizations that leads to entrepreneurial information acquisition (Ardichvili et al., 2003). Kolawole et al (2014) in a study entitled 'Social Networking and Human Capital as

Determinants of Entrepreneurial Opportunity in Nigeria' concluded that with the expansion of social networking, entrepreneurial opportunity recognition would develop. Ramezanpour et al. (2014) in their research found a positive and significant relationship between social networking and entrepreneurial opportunity recognition. The results of the study by Ardichvili and Cardozo (2000) showed that social networking was significantly related to the recognition of entrepreneurial opportunity. The results of the research by Klyver and Schott (2011) showed that social networking increases one's access to information resources and thereby enhances one's knowledge. In their research, Jawahar and Nigama (2011) examined the impact of different aspects of social networking, such as structural, relational, and cognitive, on knowledge. The results showed that a strong social network leads to increased knowledge acquisition. As such, networking behaviors can be justified by taking into account institutional gaps that do not guarantee intellectual property rights and prevailing cultural trends in the country. However, further research seems to be able to increase our understanding of why and how these factors are affected. These results also suggest that entrepreneurs apply team-building questioning and observation skills, especially in emerging ideas, when forming a team (Sakhdari et al., 2019). Ramezanpour et al. (2014) in their research concluded that increasing knowledge leading to the recognition of entrepreneurial opportunity is the result of experience. Wongpinunwatana and Panchoo (2014) in their research concluded that one's knowledge influences self-efficacy. Their research results show that increasing one's basic knowledge will increase one's self-efficacy. Hosseini et al. (2014) in their study examined the impact of self-efficacy on people's knowledge. The results showed that increasing self-efficacy leads to increased knowledge by increasing people's intention to share knowledge. In general, it can be concluded that individual abilities or entrepreneurial personality traits influence people's perception of business opportunity opportunities. It is also necessary to analyze the impact of environmental factors in the sense that in addition to the possibility of creating an entrepreneurial opportunity in the entrepreneur's mind, it is also possible that these opportunities are created in the environment, that is, outside the entrepreneur's mind (Wang et al., 2013). Tang (2008) states that the entrepreneurial environment affects human capital, social capital, and social skills. In other words, the appropriate entrepreneurial environment provides a framework for accelerating the flow of knowledge transfer, encouraging the exchange of information and experiences, improving

the discussion and exchange of knowledge and thus identifying, creating, combining and using knowledge. In their studies, Arenius and Clercq (2005) concluded that the nature and nature of a person's area of residence had a significant and positive impact on their perception of entrepreneurial opportunities. Therefore, it can be concluded that environmental factors and entrepreneurs' perception of the business environment in different dimensions that can be integrated into the concept of entrepreneurial ecosystem have an impact on the recognition of entrepreneurial opportunities. Corbett (2007) also defines opportunity recognition as the ability to recognize a good idea and transfer it to business in a way that generates value added and generates income. In fact, in the process of identifying opportunity, individuals find that they have the potential to create new things that have the capacity to generate economic value (Baron & Shane, 2005). When there is no demand for a particular commodity, entrepreneurs are changing the market conditions by creating new ideas, so they can identify an opportunity (Sarasvathy, 2003). As such, it can be argued that recognizing entrepreneurial opportunities can play an important role in the achievements of exploiting that opportunity. Various researchers have also suggested that people who need more knowledge are able to gain more information from their environment (Heslin & Johnson, 1992). In this regard, Ko (2012) also concluded that the need to recognize both directly and indirectly through vigilance affects the identification of entrepreneurial opportunities. In a study by Tang (2010) entitled "how entrepreneurs in china identify opportunities", a review of the opportunity recognition literature concluded that two categories of individual and environmental factors influence recognition. Social capital, human capital (previous knowledge and past work experience), and social skills are individual factors influencing the identification of entrepreneurial opportunities. But he argues that the relationship between individual characteristics and opportunity identification depends on the entrepreneurial environment in which the opportunity is identified, as well as the abhorrent experiences one experiences. From such research, it can be concluded that a good understanding of the environment (focusing on the relevant business ecosystem) and focusing on existing or future opportunities in that environment can lead to beneficial outcomes for entrepreneurs.

A review of the previous theoretical framework as well as previous studies related to the present study provided the necessary background for presenting the following research hypotheses and then the theoretical framework for the research. These hypotheses are: 1. Individual capacity (ideation and opportunity) influences social networking. 2. Previous knowledge affects social networking. 3. Social networking has an impact on understanding the opportunities of the business environment (entrepreneurial ecosystem). Previous knowledge has an impact on understanding the opportunities of the business environment (entrepreneurial ecosystem). 5. Individual capability (idea-making and opportunity-seeking) has an impact on the understanding of opportunities in the business environment (entrepreneurial ecosystem). 6. Understanding the opportunities of the business environment (entrepreneurial ecosystem) on performance has an impact on identifying entrepreneurial opportunities. Performance in identifying entrepreneurial opportunities has an impact on the achievement of opportunity utilization (opportunity development). 8. Understanding the opportunities of the business environment (entrepreneurship ecosystem) has an impact on the achievement of opportunity utilization (opportunity development). Considering the aforementioned hypotheses, the conceptual framework of the research is presented as a diagram (1), and then using the structural equation modeling and PLS2 software to investigate the relationships between variables and test the research hypotheses.
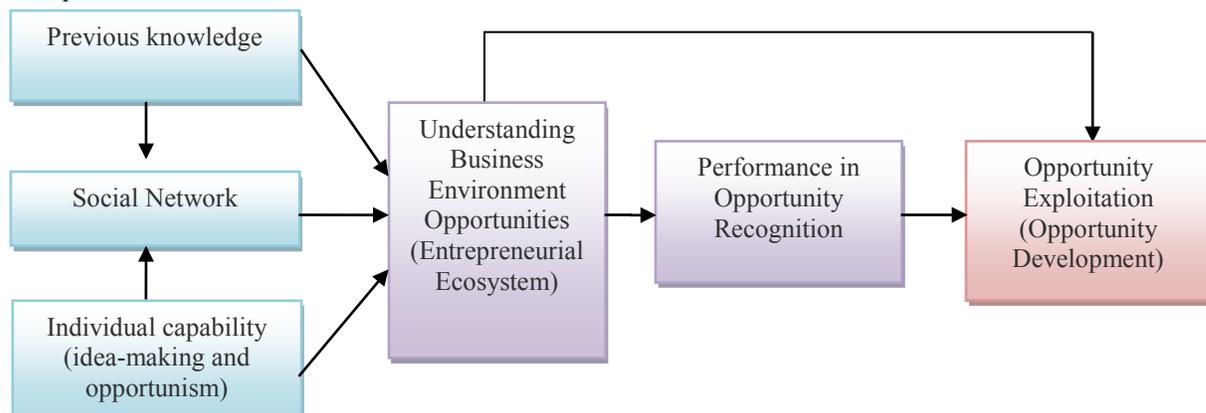
Figure 1. Conceptual Research Model

2. Materials and methods

The purpose of this study is a kind of applied research. Because the results of this study can be used to promote startup technology businesses in agriculture. In terms of the nature of the topic, the appropriate research method for this research is descriptive. At this stage, a questionnaire was used to identify the elements and stages of opportunistic behavior in start-ups. In this regard, for the class data, the sample size was determined and then the questionnaire was randomly distributed. A questionnaire was designed and distributed among the statistical population in order to identify and screen technology start-up business opportunities in agriculture.

The questionnaire has 24 questions that include 6 components of individual capability (ideation and opportunity seeking), prior knowledge, social networking, understanding of business environment opportunities (entrepreneurial ecosystem), performance in identifying entrepreneurial opportunities and achievement. Measures the exploitation of opportunities (opportunity development). Table 1 lists the variables and indicators for measuring each variable. At the end, the researcher in the descriptive and inferential section using SPSS software and in the analytical section using PLS software analyzes the data, while presenting the final research model, concludes and makes suggestions on the research topic.

Table 1. Variables and Indicators for Measuring Research Variables

Variable	Item	Measurement Indicator	Source
Individual capability (idea-making and opportunism)	A1 A2 A3 A4	Continuous pursuit of creativity and initiative Take the risk of pursuing a new idea Continue the new idea until the result Foresight and discernment in identifying and seizing new opportunities	(Brockhaus, 1980) and (McClelland, 1961) and (Van Praag &Versloot, 2007, cited by sakhdari et al., 2017) and Ardichvili et al. (2003)
Previous knowledge	B1 B2 B3 B4	Continuous pursuit of creativity and initiative Take the risk of pursuing a new idea Continue the new idea until the result Foresight and discernment in identifying and seizing new opportunities	Shane (2003), Chung (2004), Davidson and Heunig (2003)
Social Network	C1 C2 C3 C4	Maintain scientific communication with academics and researchers Learning by rethinking experiences and exchanging ideas Get interesting feedback and ideas from customers Get an idea by analyzing the performance of competitors, technologists, suppliers	Barnir & Smith (2002), Ozgen & Baron (2007)
Understanding Business Environment Opportunities (Entrepreneurial Ecosystem)	D1 D2 D3 D4	Provide the necessary support infrastructure The market is growing and there are many opportunities for innovative products Competition and dynamism Promising Potential and Prospects for Technology Advancement	Autio et al. (2014), Campbell et al. (2007), Acs et al. (2002).
Performance in Opportunity Recognition	E1 E2 E3 E4	Innovative plans for future value chain development Technological ideas for continuous and continuous development Identifying the market gap Successful in transforming ideas into practical initiatives according to technical, financial criteria	Gorgievski et al. (2011)
Opportunity Exploitation (Opportunity Development)	D1 D2 D3 D4	Achieving a secure market share with appropriate profit margins Suitable capacity for technical knowledge development or technology acquisition (transfer method) Access to appropriate resources and operational infrastructure Advancing and achieving competitive advantages of team dynamics, technical knowledge	Plummer & Haynie (2007), Ardichvili et al (2003)

3. Results and discussion

The statistical population of the study consisted of the founders and managers of start-up agricultural technology businesses in the northern provinces of Iran with a total of 318 individuals. Based on Bartlett et al. Table, 130 individuals were selected. The results showed that in terms of gender, the majority of startup entrepreneurs (71.5%) were in the men's group and 45.5% were in the start-up businesses with a bachelor's degree and in the field of education (37.71%). They had education in agriculture and natural resources. The results also showed that these young entrepreneurs had a history of 1 to less than 2 years (36.15%) and 2 to less than 3 years (31.54%) with a total of 68%.

3.1. Data analysis

Structural equation partial least squares (PLS) method was used to test the accuracy of the theoretical model of the research and to calculate the impact coefficients. This technique allows to examine the relationships of hidden variables and indexes (visible variables) simultaneously. In PLS models, two models are tested: external models and internal models. The model measurement section, which represents the relationships between hidden variables with their indices in both hybrid and reflective form, is called the internal model and the structural part of the model that represents the relationship between hidden variables is the internal model. Fitting the PLS models is done in three stages: first the evaluation of the measurement model (external model), the second stage determining the reliability and validity, and the third stage evaluating the structural model (internal model). Factor loadings, Cronbach's alpha, and composite reliability are used to evaluate structural reliability (Fornell and Larcker, 1981). The criterion for model fit is factor loadings greater than 0.5. Cronbach's alpha coefficients above 0.7 indicate acceptable reliability. The acceptable criterion for structural reliability is having a composite (CR) greater than 0.7. Also, the appropriate value for convergent validity is the mean variance (AVE) of greater than 0.5. The convergent validity condition is that the composite reliability measure is greater than the mean variance (CR> AVE). For fitting the structural model (internal model) the factor loadings coefficients should be higher than 0.5. In this study, factor loadings have the desired conditions, which indicate the suitability of the model. The coefficient of determination (R^2) for the endogenous hidden variables is considered to be 0.19, 0.33 and 0.67, respectively.

Convergent validity examines the correlation of each construct with its questions. Since the appropriate value for the AVE is 0.5 and in accordance with the findings of Table (2) this criterion is adopted for the hidden variables a good value is obtained, thus the convergent validity of the research is confirmed and considering The appropriateness of the Cronbach's alpha and the composite reliability was 0.7 and, in accordance with the findings of Table (2), these criteria adopted appropriate values for the hidden variables, thus confirming the suitability of the research reliability.

In testing the general PLS model, Tenenhaus et al (2005) introduced a general index called GOF to test the fit of the model, which is obtained by calculating the mean of R^2 and the mean of communal values. This index examines the model's overall predictive ability (success rate in predicting endogenous latent variables). Wetzels et al. (1) reported values of 0.01, 0.25, and 0.36 as low, moderate, and strong values for GOF, respectively. Table 3 shows the fit of the overall model with respect to the GOF value of 0.66.

In the following, path coefficients or t_value are used to test the research hypotheses. These coefficients represent the strength of the relationship between the variables. The acceptable values for these coefficients are values above 1.96. Figure 3 shows the structural model of the research with significant coefficients using PLS software. Based on the theoretical model developed and processed, taking into account the mentioned hypotheses and considering the rejection of hypotheses 3, 4 and 8 which have values less than 96/1 in Table (4), The deletion of the corresponding arrows in the conceptual model, the final fitted model of the research, is plotted in the form of diagram (2).

Table 2. Criterion Results of Cronbach's Alpha, Composite Reliability, Mean Extracted Variance, Average of Shared Values And Coefficient Of Determination

Hidden Variables	(Alpha>0.7)	(CR>0.7)	(AVE>0.5)	Communality	(R^2)
Individual capability (idea-making and opportunism)	0.890	0.924	0.753	0.752	0.000
Previous knowledge	0.831	0.888	0.666	0.666	0.000
social network	0.750	0.843	0.579	0.579	0.723
Understanding Business Environment Opportunities (Entrepreneurial Ecosystem)	0.890	0.924	0.753	0.753	0.594
Performance in Opportunity Recognition	0.905	0.934	0.780	0.780	0.644
Opportunity Exploitation (Opportunity Development)	0.893	0.926	0.759	0.759	0.550

Source: Research Findings

Table 3. General model fitting results

Communality	R^2	GOF
0.715068	0.62775	0.669988

Source: Research Findings

Table 4. Direct Relationship Results and Significant Coefficients of Model Assumptions

Path	Sign	Path Coefficient	Significant Coefficient	Test Result
social network --- Individual capability	GH FA --- SH EJ	0.360	4.240	Accept
social network --- Previous knowledge	DA PI --- SH EJ	0.549	6.661	Accept
Entrepreneurial Ecosystem--- social network	SH EJ --- ZI BU	0.551	3.557	Accept
Entrepreneurial Ecosystem --- Previous knowledge	DA PI --- ZI BU	0.039	0.406	Reject
Entrepreneurial Ecosystem --- Individual capability	GH FA --- ZI BU	0.222	1.761	Reject
Performance in Opportunity Recognition --- Entrepreneurial Ecosystem	ZI BU --- AMAL	0.802	19.741	Accept
Opportunity Development --- Performance in Opportunity Recognition	AMAL---TO FO	0.424	2.235	Accept
Opportunity Development --- Entrepreneurial Ecosystem	ZI BU---TO FO	0.357	1.783	Reject

Source: Research Findings
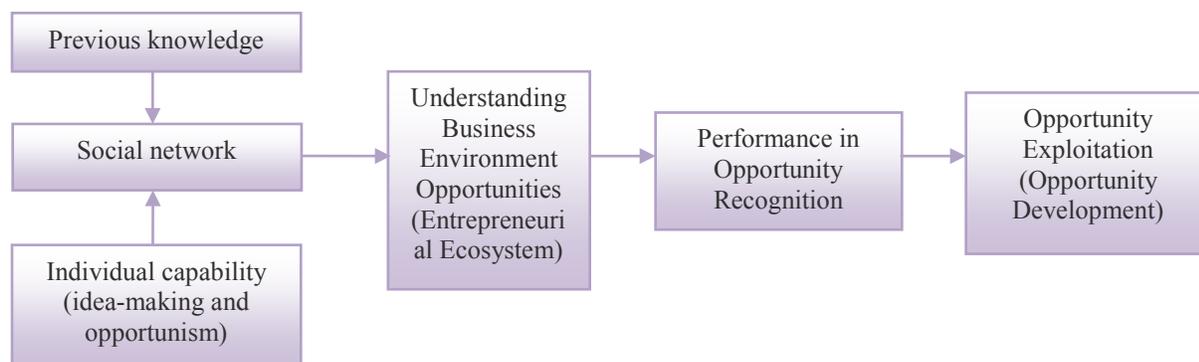
Figure 2. The Final Pattern of Research
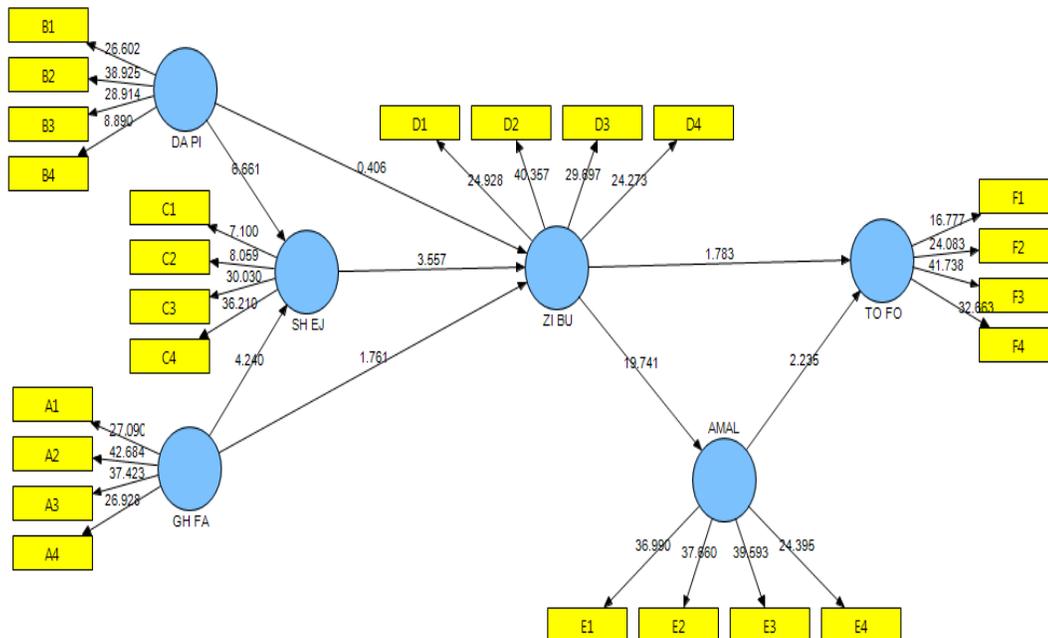
Figure 3. Structural Research Model with Significant Coefficients
Source: Research Findings

4. Conclusion and recommendations

The findings showed that in the individual capability construct (ideation and opportunism), the highest factor loadings, 0.905 related to the acceptance of the new idea pursuit risk and the lowest 0.817 related to prejudice and sharpness. They are new in identifying and exploiting opportunities and, considering the appropriateness of all the components, are a good indicator for introducing individual capabilities in identifying opportunities. Also, considering the coefficients high in all components, from 1.96 to 0.95, they are significant at the confidence level of 0.95, which is confirmed by the results of research (Brockhaus, 1980) and (McClelland, 1961). And (Van Praag, and Versloot, 2007, cited by Sakhdari et al., 2017) and Ardichvili et al. (2003). Also in previous knowledge constructs, the most frequent factor was 0.880 related to attempting to understand the target market and customer needs at the beginning of work and the least 0.704 related to attending technology / entrepreneurship training courses and events. The presence of all components is a good indicator for introducing prior knowledge in identifying

opportunities. Also, considering the coefficients higher in all components, from 1.96 to 0.95, they are significant at the confidence level of 0.95, which is consistent with the findings of Matthäus Urwyler et al. (2006), and Abolhassani et al. (2012). In social networking constructs, 0.875 most often related to the idea of analyzing the performance of competitors, technologists, suppliers, and 0.624 related to maintaining a scientific connection with experts and academics and considering all components to be appropriate. They are a good indicator for introducing social networking in identifying opportunities. Also, considering the coefficients high in all the components, from 1.96 to 0.95, their significance level is confirmed to be significant, which is in line with the results of the research (Karhiniemi, 2009) and Masoumi (2015). In constructing perceptions of business environment opportunities (entrepreneurial ecosystem), the most frequent factor was 0.911 related to the growing market and high opportunities for innovative products and the lowest 0.838 related to potential and They are promising prospects for technological advancement and, considering the appropriateness of all the components, are a good

indicator for introducing an understanding of business environment (entrepreneurial ecosystem) opportunities in identifying opportunities. Also, considering the coefficients higher than 1.96 for all components, their reliability is 0.95, which is in line with the results of Malena and Marcus (2017) and (Davenport et al., 2006). Is.

Also in performance structure, in identifying entrepreneurial opportunities, the highest factor of 0.908 was related to identifying the market gap and the least 0.834 related to the success in converting the idea into practical design and initiative according to technical, financial criteria and accordingly. The presence of all the components is a good indicator for introducing performance in identifying entrepreneurial opportunities in identifying opportunities. Also, considering the coefficients higher than all the components of 1.96, their reliability level of 0.95 is significant, which is confirmed by the results of Jianli et al. (2017) and (Davenport et al., 2006). Matches. Finally, in terms of opportunity utilization (opportunity development), the most significant factor was 0.917 related to achieving appropriate resources and operating infrastructure and the lowest 0.809 related to achieving reliable market share with appropriate profit margins. And considering the appropriateness of all the components, they are a good indicator for introducing the opportunities exploited (opportunity development) to identify opportunities. Also, considering the coefficients high in all components, from 1.96 to 0.95, they are significant at the confidence level of 0.95, which is in line with the results of the research of Valinafs et al. (2016) (Shane & Venkataraman, 2003) and (Anderson et al., 2005).

Based on the first hypothesis, the research confirms the positive and significant impact of individual capability on social networking. Since social networking plays a key role in identifying opportunities, it is recommended that emerging agricultural technology entrepreneurs pay particular attention to the following individual abilities and characteristics to help them flourish. Based on the second hypothesis, prior knowledge of young entrepreneurs has a positive and significant effect on social networking. Therefore, it is suggested to use the previous experience and knowledge of startup entrepreneurs, which are considered as the material and intellectual capital of network assets, in order to achieve the goals of the network and to integrate them in the formation of specialized networks of entrepreneurs. To start with young startup entrepreneurs with previous experience and knowledge in the field.

Based on the third research hypothesis, social networking has a positive and significant impact on the perception of business environment (entrepreneurial ecosystem) opportunities. Therefore, it is suggested to provide the necessary technical infrastructure to start-up entrepreneurs. Better understand and identify entrepreneurial biomes. The fourth hypothesis is that the variable impact of prior knowledge on perceptions of business environment (entrepreneurial ecosystem) opportunities is not directly confirmed. As identified from the results of the study, it is suggested that prior knowledge of emerging entrepreneurs be used to establish social networks to enhance the opportunity recognition process because of the importance of social networking and the importance of this path. Also, based on the fifth hypothesis, the direct impact of individual capability variables (ideation and opportunity seeking) on perceptions of business environment (entrepreneurial ecosystem) opportunities cannot be confirmed. It is therefore recommended that start-up entrepreneurs use social media to identify opportunities correctly and appropriately. Based on the sixth hypothesis, understanding of business environment (entrepreneurial ecosystem) opportunities has a positive and significant impact on performance in identifying entrepreneurial opportunities. Therefore, based on the results of the research, it is recommended that business authorities and supervisors provide the necessary support infrastructure in areas where businesses are located (parks, development centers, etc.). Based on the seventh hypothesis, performance in identifying entrepreneurial opportunities has a positive and significant effect on the achievement of opportunity utilization (opportunity development). Therefore, it is suggested that start-up entrepreneurs use actionable strategies for opportunity development, such as looking for innovative future plans for business value chain development (supply, branding, product design ...). Based on the eighth hypothesis, the research cannot directly confirm the impact of understanding the opportunities of the business environment (entrepreneurship ecosystem) on the achievement of opportunity utilization (opportunity development). Therefore, based on the results of the study, it is suggested to use the functional path of opportunity recognition to enhance the exploitation of opportunities or the development of opportunity.

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