# IDENTIFYING AND PRIORITIZING FACTORS AFFECTING FISH-RELATED BUSINESSES

**Mahdi Imani Bashokoh**
Department of Management,
Faculty of Literature and Human Sciences,
University of Guilan, Rasht, Iran
**Morteza Abangah**
Department of Management, Campus Faculty,
Guilan University, Rasht, Iran
**Amin Ghasemi Sahebi**
Allameh Tabatabai University,
Department of Business Administration, Tehran, Iran
**Samira Gholami**
Najaf abad univercity ,Humanities,
Department of Business Administration, Iran

## Abstract

*In this period of the global economy, aquaculture and related jobs have become very important. Therefore, one must work hard to manage and improve the business environment to succeed in this economic and essential business. This research broadens and deepens our knowledge of how factors influence the success of fish-related businesses. This research showed that the AHP hierarchical analysis method could be used to rank and classify factors affecting the fish business. Based on related articles and background, this research extracted the main factors, which include 45 sub-factors in 9 main categories. Then, to determine the weight and importance of these obstacles, the hierarchical analysis method was used. Also, the statistical population of this research includes experts in the aquaculture business industry who are thoroughly familiar with business issues, then using the Delphi sampling method. The number of 10 experts was identified, and pairwise comparisons of the factors were provided. After answering, integrated comparisons were used. The results showed that among the main criteria, the innovation factor was in the first place and had the most impact, and the behavioral control of perception was in the second place. Furthermore, the third rank is the need for success and self-confidence, which impact the fish business.*

**Keywords:** *business, identification, factors, fish-related businesses*

Work challenges or the issue of work and unemployment is not only one of the most critical social issues in the country, and considering the rate of population growth in the last two decades, it can be called the most important social challenge of the next few decades. Currently, one of the main concerns of the 10th government is the development of business affairs (Safari and others, 2010). Continuous growth and sustainable development of the economy require optimal use of production resources. In this, the most essential and sensitive factor is the human force. Human power plays a dual role in economic planning because, on the one hand, it is considered a factor of development and, on the other hand, a development goal. Human capital, especially in recent decades, has been

given serious attention in development theories, and the relative advantage of countries is determined by considering their human capital (Piraste & Karimi, 2006). Today, based on the patterns of economic growth, the components of employing human power, strengthening human capital, and strengthening social capital are considered to be the most critical factors in a country's economic growth and development. Therefore, the governments of different societies put much emphasis on it and use a large part of their resources to strengthen them (Kashian & Ghazanfar Nejad, 2010).

According to the topics mentioned above, as well as the matters that will come later regarding the importance and necessity and attention to business, in the present research, the researcher, according to the topic of the research, stated the main problem of the research and the necessity of conducting the research, the objectives of the research, The scope of the research, the studied variables, the research method, research hypotheses, statistical society, information gathering methods and information analysis methods, explaining the questions and finally how to determine the reliability and validity of the research.

Fish, as an essential source of animal protein after rice, is the second essential component of the diet of low-income groups of people in many developing nations. With the world's population increase, the need for fish production also increases (Asadi, 2009). Healthy nutrition, which emphasizes the consumption of aquatic products, especially fish, is one of the dimensions of a healthy lifestyle and one of the critical social determinants of health. Factors such as availability, price, and food culture in each community affect the quantity and quality of fish consumption in people's diets. (Rezai Penderi et al., 2014). The increase in the world's population and the decrease in the level of agricultural land for various reasons, including the conversion of agricultural land to residential and industrial land, have caused the food supply of the growing population to face serious problems.

On the other hand, scientific research has shown that the future of supplying protein materials needed by humans depends on the seas and water environments. The seas and oceans can produce about 240 million tons of fish annually; of this amount, about 80 million tons should be considered as reproduction reserves and 80 tons as food for other fish. Therefore, humans can only rely on the remaining 80 million tons in the seas. Since it is not expected that marine resources can alone provide the permanent protein needed for nutrition, the increase in demand for aquatic animals should be provided through aquaculture (Ansari Ardali, 2017).

The share of aquatics in supplying human food should reach 164 million tons by 2025, of which 64 million tons are related to aquaculture and the rest from sea fishing. While now, 15 million tons of aquatic products produced worldwide result from the breeding and breeding of aquatic

animals (Bani Asad et al., 2010). The rapid development of the fisheries industry in recent decades has played a unique role in attracting the attention of officials and people to aquatics. Due to the country's rapid development in recent decades, people's eating habits are also changing rapidly. Marketing experts believe there is a rapid change in the behavior of aquatic consumers in developing countries (Adeli et al., 2018). The increase in population, the lack of protein production, the increase in the price of red meat in recent years, and the low per capita consumption compared to other countries are among the reasons that can increase the demand for a fish market in the future of Iran (Nejad Rezaei et al., 2015). The nature of production and exploitation of breeding units is different from fishing from shores. There is more control over production in breeding units, and it is possible to manage production at a high level (Naghshine Fard et al., 2011). Considering the role of aquaculture in providing food resources, health, food security as well as job creation on the one hand and the limitation of water resources and the necessity of sustainable use of resources, it is necessary to include the category of sustainability in this section and include it as a principle in the production and expansion of aquaculture (Farashi et al., 2019). From a social point of view, there is a two-way relationship with aquaculture, so, on the one hand, people's taste and their views of farmed fish affect the product market in a particular area.

On the other hand, the development of farm farms can increase the quality and standard of living. The people of the region work in this sector and improve their living conditions (Motamed et al., 2017); in addition, it has attracted the financial contributions of banks and credit funds to the region, which will achieve job security and prosperity in the long term. Moreover, it brings work (Talib et al., 2014).

## Research questions

1 What are the factors influencing the creation of fish-related businesses?
2 What is the priority of factors affecting the creation of fish-related businesses?

## Research literature

Fish, as an essential source of animal protein after rice, is the second essential component of the diet of low-income groups of people in many developing nations. With the world's population increase, the need for fish production also increases (Asadi, 2009). Healthy nutrition, which emphasizes the consumption of aquatic products, especially fish, is one of the dimensions of a healthy lifestyle and one of the critical social determinants of health. Factors such as availability, price, and food culture in each community affect the quantity and quality of fish consumption in people's diets. (Rezaei Penderi et al., 2014). The increase in the world's population and the decrease in the level of agricultural land for various reasons, including the conversion of agricultural land to residential and industrial land, have caused the food supply of the growing population to face serious problems. On the other hand, scientific research has shown

that the future of supplying protein materials needed by humans depends on the seas and water environments. The seas and oceans can produce about 240 million tons of fish annually; of this amount, about 80 million tons should be considered as reproduction reserves and 80 tons as food for other fish. Therefore, humans can only rely on the remaining 80 million tons in the seas. Since it is not expected that marine resources can alone provide the permanent protein needed for nutrition, the increase in demand for aquatic animals should be provided through aquaculture (Ansari Ardali, 2017). The share of aquatics in supplying human food should reach 164 million tons by 2025, of which 64 million tons are related to aquaculture and the rest from sea fishing. While now, 15 million tons of aquatic products produced worldwide result from the breeding and breeding of aquatic animals (Bani Asad et al., 2010). The rapid development of the fisheries industry in recent decades has played a unique role in attracting the attention of officials and people to aquatics. Due to the country's rapid development in recent decades, people's eating habits are also changing rapidly. Marketing experts believe there is a rapid change in the behavior of aquatic consumers in developing countries (Adali et al., 2017). The increase in population, the lack of protein production, the increase in the price of red meat in recent years, and the low per capita consumption compared to other countries are among the reasons that can increase the demand for a fish market in the future of Iran (Nejad Rezaei et al., 2015). The nature of production and exploitation of breeding units is different from fishing from shores. There is more control over production in breeding units, and it is possible to manage production at a high level (Map of Fard et al., 1390: 134). Considering the role of aquaculture in providing food resources, health, food security as well as job creation on the one hand and the limitation of water resources and the necessity of sustainable use of resources, it is necessary to include the category of sustainability in this section and include it as a principle in the production and expansion of aquaculture (Naghshine Fard et al., 2011). From a social point of view, there is a two-way relationship with aquaculture, so, on the one hand, people's taste and their views of farmed fish affect the product market in a particular area. On the other hand, the development of farm farms can increase the quality and standard of living. The people of the region work in this sector and improve their living conditions (Motamed et al., 2017); in addition, it has attracted the financial contributions of banks and credit funds to the region, which will achieve job security and prosperity in the long term. Moreover, it brings work (Taleb et al., 2014).

Innovation: Innovation is identifying and performing business activities in a new way (Nasip et al., 2017).

Source of control: Internal source of control means that people believe they can control their lives, and external source of control means that they

believe that environmental factors control their decisions and lives and that people cannot influence them. To have is defined (Router, 1996).

Self-confidence: Self-confidence is a person's belief in his ability to organize and implement a project or a specific set of tasks that is necessary to achieve specific goals or selected results, and in this case, creating a business, definition (Vidal-San & Lopez-Panicello, 2013).

Risk propensity: Risk propensity refers to an individual's perceived likelihood of receiving the reward associated with the success of a situation before facing the consequences of failure, the alternative situation offering less reward, and the severe consequences of the proposed situation (Nasip et al., 2017).

Need for achievement: The need for achievement involves a person's desire to excel or succeed in competitive situations. (Schipper et al., 2011).

Ambiguity Tolerance: Ambiguity tolerance is the tendency to view situations without precise results and as attractive rather than threatening (Nasip et al., 2017).

Attitude towards behavior: Creating a business is related to a person's positive attitude towards the responsibility of learning, work, and life related to business (Shaw & Simro, 2017).

Perceived Behavioral Control: Perceived behavioral control is the opinions of individuals on how to facilitate value creation through innovative interaction, risk-taking activities, and active actions in the organizational environment (Kong & An, 2016).

Subjective norms: A person's perception of what others, such as friends and family members, think about doing or not doing a behavior (Cameron et al., 2012). Alternatively, perceived social pressure to perform or not perform a specific behavior (Shaw & Simro, 2017).

Business creation: Business creation is the number of actions a business enthusiast takes to implement behavior and adopt the motivational factors affecting that behavior to create a business (Shaw & Simro, 2017).

**Research background**

For the first time, Michael Porter (1990), in a book titled The Comparative Advantage of Nations, specifically proposed the theory of business clusters. Porter defines *clusters* as the spatial concentration of interrelated companies that operate in a specific field and create advantages. Like technology, the head of knowledge and regional concentration and supply of raw materials are needed by other companies (Humphrey & Schmitz, 1983).

Trekker (2009) conducted research titled In this research, he considers the university's development of students' entrepreneurial skills and abilities to be one of the most critical determinants of their entrepreneurial intention.

Otto et al. (2001) studied business goals among students in Scandinavia and the United States of America. This study was conducted on London Business School students in business intention. No significant effect of subjective norms on business intention was observed in their studies. On

the other hand, attitude towards Business and perceived behavioral control over career choice are significantly related to business intention.

Basu and Virik (2010) conducted research titled Analysis of personal tendencies, social norms, and behavioral controls on Business. The research results show that the three factors of personal tendencies, social norms, and observed behavioral control have a direct relationship with the understanding of the individual's ability to be an entrepreneur and control activities in job regulation.

Linen et al. (2011) researched "Effective factors on the levels of willingness to do business: Examining the role of education." The research model was based on the theory of planned behavior. A sample consisting of 549 final-year students was selected from two Spanish universities. The structural equation technique results showed that individual attitude and perceived behavioral control are the most critical factors affecting entrepreneurial tendencies. Also, the influential role of education in creating these tendencies and attitudes was investigated.

Koe and others (2012) Determining business goals among the millennial generation. This conceptual article studied business intention by expanding Ajzen's behavioral theory. Specifically, knowledge, experience, and relationships are independent variables, and attitude, social attitude, perceived behavioral control, and personality traits act as mediating variables. The research results showed that the independent variables, directly and indirectly, affect business intention.

Fayol et al. (2014) researched beyond business intention: business values and Motivations. They suggested that the two factors of values and motivations are significant for developing background goals.

Matt et al. (2015) conducted research identifying factors affecting business intention in design technology students. The number of 54 students of technological engineering at Kulalanpur University was studied as a statistical sample. A questionnaire containing 54 questions was published and extracted from this questionnaire. The research results on this factor among students also had resources for the need for three internal controls, progress, and mental norms as determinants of entrepreneurial goals.

Patrick Iglesias (2016) researched the impact of business programs on university students. The research results show that students' default in business was limited because the beliefs and perceived risk about it hindered the implementation of their decisions to start a business.

Nasip et al. (2017) conducted a research titled "Psychological Characteristics and Business Intention: A Study among Students of the University of North Borno, Malaysia." This research aims to examine the relationship between individual psychological characteristics (for example, innovativeness, locus of control, self-confidence, risk-taking, need for success, and uncertainty tolerance) and business intention. A total of 676 master's students of the University of Malaysia Sabah participated in this survey.

The data were analyzed using the least squares method. It shows that innovation, self-confidence, self-worth, the need to succeed, and tolerance for mistakes are positive in business in undergraduate students. However, locus of control is not significantly related to entrepreneurial intention.

Shaw and Simro (2017) conducted a study titled "Intention and Work among Pakistani public sector students." This research aims to identify the factors that can influence influential businesses. The abstract concept in this study is the theory of planned behavior in a descriptive way in which a cross-section is randomly collected from different public universities in Pakistan. The data collection tool was a questionnaire. Respondents were undergraduate as well as graduate students studying business or related fields. 385 usable questionnaires were analyzed using Statistical Package for Social Sciences version 21. The Pearson correlation and multiple regression analyses showed that attitude towards behavior and mental norms have a positive and significant relationship with entrepreneurial intention. On the other hand, perceived behavioral control is not related to business intention.

In his stories, Smallbone (2017) identified the major issues facing small and medium-sized rural entrepreneurs in seven small market factors, limited choice of the labor force, weakness in communication and transportation infrastructure, lack of proper access to information, and so on. Consulting services related to commercial affairs, access to financial resources, and inappropriate institutional space are categorized.

Badini et al. (2018) showed that the technological level of the company, social factors, legal and regulatory factors, property rights, and physical capital are among the vital factors of the success of small and medium companies. They are small and medium.

In its report on entrepreneurship in 2020, 2019, and 2018, Gem has given the first step for Iran to take the right path in entrepreneurship to think about the potential of people in the society and be aware of the actual state of entrepreneurship.

**Research methodology**

The research method in this thesis is applied in terms of its purpose and descriptive-analytical in terms of the type of data collection method, and it is done by using library studies and field investigations. The statistical population of this research is warm water fish farmers and experts in this profession in Guilan province. The community investigated in this research were warm-water fish aquaculturists and experts in Guilan province, among whom several samples were selected based on the Delphi method, and they completed the questionnaire. Due to the type of research and faster access to the observers' comments, the best data collection method in this research is the field method.

**Identification of factors**

To identify the influential factors of research, library sources, articles, and scientific theses were used in this field, which the following table shows along with the sources used.

**Table 1 Factors affecting business success**

| Agents | Resource |
|---|---|
| Attitude towards business, society norms, and belief in self-efficacy | Barani et al. (2010), Arasti et al. (2012), Rahmanian Koushakki et al. (2012) |
| Age, level of education, receiving a loan, economic barriers, activity history, income, acquiring the necessary skills, and risk-taking. | Jamshidi Far et al. (2010) |
| Psychological variables include creativity and innovation, risk-taking, determination and hard work, internal control, and the spirit of learning. | Aghajani and Ganjekhor (2010), Mahdavi et al. (2015) |
| Educational, psychological, communicative, and academic | Ghasemi and Asadi (2010), Katebi Pour and Zia (2014) |
| Psychological, academic and educational, demographic, and environmental characteristics | Farahani et al. 2015 |
| Attitude and perceived behavioral control | Karimi 2016 |
| Motivation to progress, seeking challenges, marketing skills, and pragmatism | Hosseini Nia et al. (2017) |
| Attitude toward business and perceived behavioral control over career choice | Otto et al. (2001) |
| Developing entrepreneurial skills and abilities | Turker (2009) |
| Internal control, need for progress, and mental norms. | Mat et al. (2015) |
| Values and motivations | Ferreira et al. (2012) |
| Innovativeness, internal control, willingness to take risks, self-confidence, need for success, tolerance of ambiguity | Nasip et al . (2017) |
| Behavioral attitude, perceived behavioral control, subjective norms, business creation | Shah & Soomro (2017) |

| | | |
|---|---|---|
| **Factors affecting business success** | **Innovation** | Interest, new opportunities, new methods, new ideas |
| | **Internal control** | Mistakes, pleasures, unpleasant things, accepting positive and negative consequences, luck, and fate |
| | **Willingness to take risks** | Low profit, high risk, uncertainty, new commitment |
| | **Self-Confidence** | Direct supervision, abilities, weaknesses, and fears, coping with new situations, defending myself |
| | **The need for success** | Competition, feeling of success and satisfaction from work, comfortable life, desire for a new job |
| | **tolerance of ambiguity** | Job security, clear instructions, enjoyment of unstructured conditions, having a work plan, joint responsibilities, and being a group leader |
| | **Attitude towards behavior** | The benefits of entrepreneurship, a different look at business, the attractiveness of the business, the desire to create a business, satisfaction |
| | **Perceived behavioral control** | The simplicity of self-employment, various out-of-control events in the surrounding environment, self-employment, and the possibility of failure, complete control over my business environment. |
| | **Mental norms** | Pursuing self-employment, creating a career, the importance of others' views |
| | **Business intent** | Enduring all hardships, goals, striving for success, decisions, ability to create work |

**Figure 1 An overview of the factors identified in the fish business**

In the continuation of this research, the questionnaire of paired comparisons was given to the experts, who were asked to evaluate the importance of the criteria in the following order. 9 questionnaires were distributed, and all of them were returned. The return rate was 0.100. In this research, in order to analyze the available information, Excel and Expert Choice software were used.

Saati and his colleagues provide Expert Choice software to support the AHP method.

**Innovation index ranking**

The innovation index had four sub-indices of interest, new opportunities, new methods, and new ideas. Table 2 shows the priority of selecting sub-indices based on the hourly method. Figure 2 shows each sub-indexes weight based on experts' opinions. As shown in this figure, the interest sub-index with a weight of 0.334 has the highest value, and the new opportunities sub-index with a weight of 0.167 has the lowest value among the indexes. The inconsistency coefficient of this test is 0.09, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 2 The priority of selecting the innovation index**

| Symbol | | interest | New opportunities | New methods | new ideas |
|---|---|---|---|---|---|
| A1 | interest | - | 2 | 2 | 2 |
| A2 | New opportunities | - | - | 1 | 0/5 |
| A3 | New methods | - | - | - | 2 |
| A4 | new ideas | - | - | - | - |



A1     .334
A2     .167
A3     .254
A4     .245
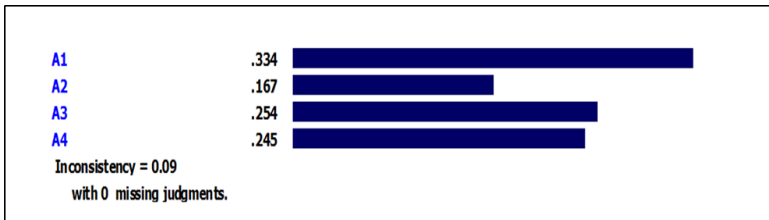Inconsistency = 0.09
   with 0 missing judgments.

**Figure 2 Ranking of innovation index**

**Internal control index ranking**

The internal control index had five sub-indices: mistakes, pleasure, uncomfortable things, acceptance of positive and negative consequences, luck, and fate. Table 3 shows the priority of selecting sub-indices based on the hourly method. Figure 3 shows each sub-indexes weight based on experts' opinions. As shown in this figure, the sub-index of accepting positive and negative consequences with a weight of 0.231 has the highest value, and the sub-index of uncomfortable things with a weight of 0.144 has the lowest value among the indicators. The inconsistency coefficient of this test is 0.09, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 3 The priority of choosing the internal control index**

| Symbol | | mistake | Pleasure | Disturbing cases | Accepting positive and negative consequences | Luck and fate |
|---|---|---|---|---|---|---|
| B5 | mistake | - | 1 | 2 | 1 | 1 |
| B6 | Pleasure | - | - | 1 | 2 | 0/5 |
| B7 | Disturbing cases | - | - | - | 0/5 | 1 |
| B8 | Accepting positive and negative consequences | - | - | - | - | 2 |
| B9 | Luck and fate | - | - | - | - | - |
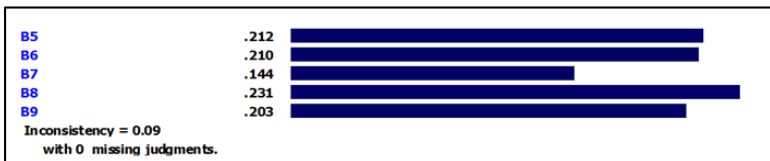


**Figure 3 Internal control index rating**

**Ranking of the risk appetite index**

There were four sub-indices of low profit, high risk, uncertainty, and new commitment in the risk appetite index. Table 4 shows the priority of choosing sub-indices based on the hourly method. Figure 4 shows each sub-indexes weight based on experts' opinions. As shown in this figure, the low-profit sub-index with a weight of 0.347 has the highest value, and the high-risk sub-index with a weight of 0.180 has the lowest value among the indexes. The inconsistency coefficient of this test is 0.09, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 4 The priority of choosing the risk appetite index**

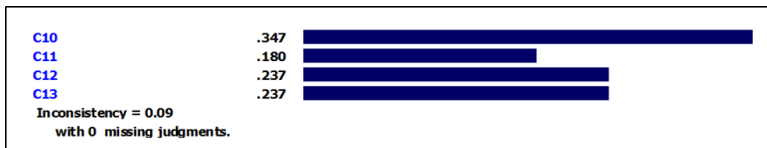| symbol | | low profit | high risk | Unreliability | New commitment |
|---|---|---|---|---|---|
| C10 | low profit | - | 1 | 2 | 2 |
| C11 | high risk | - | - | 0/5 | 0/5 |
| C12 | Unreliability | - | - | - | 1 |
| C13 | New commitment | - | - | - | 0 |



**Figure 4 Risk propensity index rating**

**Confidence index ranking**

The self-confidence index contained five sub-indices of direct supervision, ability, weaknesses, fears, dealing with new situations, and self-defense. Table 5 shows the priority of selecting sub-indices based on the hourly method. Figure 5 shows each sub-indexes weight based on experts'

opinions. As shown in this figure, the ability sub-index with a weight of 0.306 has the highest value, and the weaknesses and fears sub-index with a weight of 0.106 have the lowest value among the indicators. The inconsistency coefficient of this test is 0.05, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 5 The priority of choosing the self-confidence index**

| Symbol | | Direct supervision | Ability | Weaknesses and fears | Dealing with new situations | Self-Defense |
|---|---|---|---|---|---|---|
| D14 | Direct supervision | - | 1 | 2 | 2 | 2 |
| D15 | Ability | - | - | 2 | 3 | 2 |
| D16 | Weaknesses and fears | - | - | - | 0/5 | 0/5 |
| D17 | Dealing with new situations | - | - | - | - | 2 |
| D18 | Self-Defense | - | - | - | - | 0 |



**Figure 5 Confidence index rating**

### Ranking of the need for success index

In need for success index, there were four sub-indices of competition, feeling of success and job satisfaction, comfortable life, and desire for a new job. Table 6 shows the priority of choosing sub-indices based on the hourly method. Figure 6 shows each sub-indexes weight based on experts' opinions. As shown in this figure, the competition sub-index with a weight of 0.347 has the highest value, and the willingness to new job sub-index with a weight of 0.180 has the lowest value among the indexes. The inconsistency coefficient of this test is 0.09, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 6 The priority of choosing the indicator of the need for success**

| Symbol | | Competition | Feeling successful and satisfied with work | easy life | Desire for a new job |
|---|---|---|---|---|---|
| E19 | Competition | - | 2 | 2 | 1 |
| E20 | Feeling successful and satisfied with work | - | - | 1 | 2 |
| E21 | easy life | - | - | - | 2 |
| E22 | Desire for a new job | - | - | - | - |



**Figure 6 Index rating of the need for success**

**Rating of ambiguity tolerance index**

The ambiguity tolerance index contained six sub-indices of job security, clear instructions, enjoyment of unstructured conditions, a work plan, shared responsibilities, and being a group leader. Table 7 shows the priority of selecting sub-indices based on the hourly method. Figure 7 shows each sub-indexes weight based on experts' opinions. As shown in this figure, the sub-index of job security with a weight of 0.211 has the highest value, and the sub-index of enjoyment of certain unstructured conditions with a weight of 0.100 has assigned the lowest value among the indexes. The inconsistency coefficient of this test is 0.04, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 7 The priority of choosing the ambiguity tolerance index**

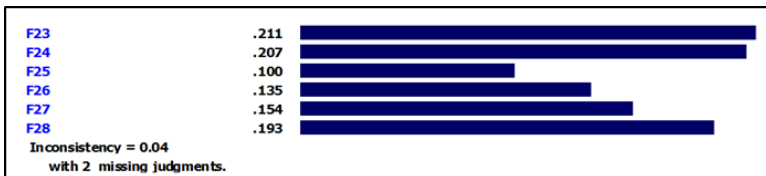| Symbol | | Job security | Clear instructions | Enjoy unstructured situations | The existence of a work plan | Shared responsibilities | Being the leader of the group |
|--------|--|--------------|--------------------|-------------------------------|------------------------------|-------------------------|-------------------------------|
| F23 | Job security | - | 2 | 2 | 1 | 1 | 1 |
| F24 | Clear instructions | - | - | 2 | 2 | 2 | 1 |
| F25 | Enjoy unstructured situations | - | - | - | 1 | 0/5 | 0/5 |
| F26 | The existence of a work plan | - | - | - | - | 1 | 1 |
| F27 | Shared responsibilities | - | - | - | - | - | 1 |
| F28 | Being the leader of the group | - | - | - | - | - | - |



**Figure 7 Ambiguity tolerance index rating**

**Rating of attitude index toward behavior**

Satisfaction was found in the index of attitude towards behavior, entrepreneurship benefits, different views of business, the attractiveness of the business, and willingness to create a business. Table 8 shows the priority of selecting sub-indices based on the hourly method. Figure 8 shows each sub-indexes weight based on experts' opinions. As shown in this figure, the sub-index of entrepreneurship benefits with a weight of 0.346 has the highest value, and the sub-index of a different view of business with a weight of 0.113 has the lowest value among the indexes. The inconsistency coefficient of this test is 0.02, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 8 The priority of choosing the index of attitude toward behavior**

| Symbol | | Advantages of entrepreneurship | A different look at business | Business attractiveness | Desire to create a business | satisfying |
|--------|--|-------------------------------|----------------------------|------------------------|----------------------------|-----------|
| G29 | Advantages of entrepreneurship | - | 3 | 2 | 2 | 2 |
| G30 | A different look at business | - | - | 1 | 0/5 | 0/5 |
| G31 | Business attractiveness | - | - | - | 1 | 1 |
| G32 | Desire to create a business | - | - | - | - | 0/5 |
| F33 | satisfying | - | - | - | - | - |
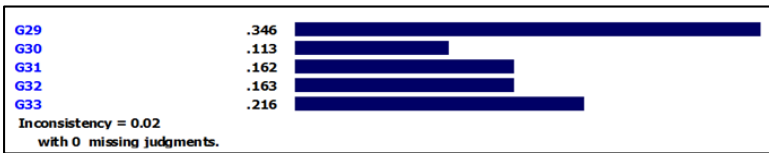


**Figure 8 Index rating of attitude toward behavior**

### Rating of control index

In the control index, the sub-index of the simplicity of self-employment, various and out-of-control events in the surrounding environment, the possibility of failure, and control of the business environment were located. Table 9 shows the priority of selecting sub-indices based on the hourly method. Figure 9 shows each sub-indexes weight based on experts' opinions. As shown in this figure, the simplicity of self-employment with a weight of 0.334 has the highest value, and the sub-index of various and out-of-control events in the surrounding environment with a weight of 0.167 has assigned the lowest value among the indicators. The inconsistency coefficient of this test is 0.09, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 9 The priority of choosing the control index**

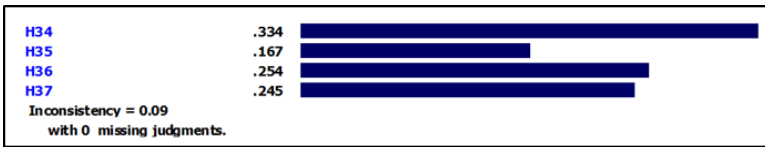| Symbol | | The simplicity of self-employment | Various and out of control events in the surrounding environment | The possibility of failure | Business environment control |
|--------|--|----------------------------------|------------------------------------------------------------------|----------------------------|------------------------------|
| H34 | The simplicity of self-employment | - | 2 | 2 | 1 |
| H35 | Various and out of control events in the surrounding environment | - | - | 1 | 0/5 |
| H36 | The possibility of failure | - | - | - | 2 |
| H37 | Business environment control | - | - | - | - |

**Figure 9 Control index rating**

## Index ranking of subjective norms

In the index of subjective norms, the sub-index of seeking self-employment, building a career, and the importance of others' views were located. Table 10 shows the priority of choosing sub-indices based on the hourly method. Figure 10 shows each sub-indexes weight based on experts' opinions. As shown in this figure, the sub-indices of pursuing self-employment and creating a career, with a weight of 0.400, have the highest value, and the sub-index of the importance of others' views, with a weight of 0.200 has assigned the lowest value among the indicators. The inconsistency coefficient of this test is 0.00, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 10 The priority of choosing the index of mental norms**

| Symbol | | Seeking self-employment | Create a career | The importance of other people's views |
|---|---|---|---|---|
| I38 | Seeking self-employment | - | 1 | 2 |
| I39 | Create a career | - | - | 2 |
| I40 | The importance of other people's views | - | - | - |



**Figure 10 Index rating of mental norms**

## Business intention index ranking

In the index of business intention, there was a sub-index of bearing all hardships, goals, efforts, decisions, and ability to create work. Table 11 shows the priority of selecting sub-indices based on the hourly method. Figure 11 shows each sub-indexes weight based on experts' opinions. As shown in this figure, the decision sub-index with a weight of 0.250 has the highest value, and the sub-index of the importance of others' views with a weight of 0.127 has assigned the lowest value among the indicators. The inconsistency coefficient of this test is 0.07, considering that this number is smaller than 0.1, so the pairwise comparison is valid in this index.

**Table 11 The priority of choosing the index of business intention**

| Symbol | | Endure all the hardships | Target | Effort | Decision | Ability to create work |
|---|---|---|---|---|---|---|
| J41 | Endure all the hardships | - | 1 | 1 | 2 | 2 |
| J42 | Target | - | - | 1 | 1 | 2 |
| J43 | Effort | - | - | - | 2 | 0/5 |
| J44 | Decision | - | - | - | - | 0/5 |
| J45 | Ability to create work | - | - | - | - | - |

**Figure 11 Business Intention Index Ranking**

**Research results**

Question 1: What are the factors influencing the creation of fish-related businesses?

By examining past studies and experts' opinions, the factors influencing the creation of fish-related businesses have been identified as follows:

Innovation: Innovation is identifying and performing business activities in a new way (Nasip et al., 2017).

Source of control: Internal source of control means that people believe they can control their lives, and external source of control means that they believe that environmental factors control their decisions and lives and that people cannot influence them. To have is defined (Router, 1996).

Self-confidence: Self-confidence is a person's belief in his ability to organize and implement a project or a specific set of tasks that is necessary to achieve specific goals or selected results, and in this case, creating a business definition (Vidal-San & Lopez-Panicello, 2013).

Risk propensity: Risk propensity refers to an individual's perceived likelihood of receiving the reward associated with the success of a situation before facing the consequences of failure, the alternative situation offering less reward, and the severe consequences of the proposed situation (Nasip et al., 2017).

Need for achievement: The need for achievement involves a person's desire to excel or succeed in competitive situations. (Schipper et al., 2011).

Ambiguity Tolerance: Ambiguity tolerance is the tendency to view situations without precise results and as attractive rather than threatening (Nasip et al., 2017).

Attitude towards behavior: Creating a business is related to a person's positive attitude towards the responsibility of learning, work, and life related to business (Shaw & Simro, 2017).

Perceived Behavioral Control: Perceived behavioral control is the opinions of individuals on how to facilitate value creation through innovative interaction, risk-taking activities, and active actions in the organizational environment (Kong & An, 2016).

Subjective norms: A person's perception of what others, such as friends and family members, think about doing or not doing a behavior (Cameron et al., 2012). Alternatively, perceived social pressure to perform or not perform a specific behavior (Shaw & Simro, 2017).

Business creation: Business creation is the number of actions a business enthusiast takes to implement behavior and adopt the motivational factors affecting that behavior to create a business (Shaw & Simro, 2017).

Second question: What is the priority of factors affecting the creation of fish-related businesses?

The research results have shown that the internal control, with a weight of 0.148, has the highest value, and the self-confidence index, with a weight of 0.055, has been assigned the lowest value among the indicators.

Regarding the dimension of innovation, the results showed that innovation with a weight of 0.145 affects business creation. With the increase of innovation, a person's confidence in his abilities to start and manage a new business increases. His evaluation and attitude toward entrepreneurship become more positive and more attractive to him.

The results obtained from the examination of this question showed that the variable of the source of internal control with a weight of 0.148 has an effect on creating a business. The results obtained from this dimension are consistent with the research results of Nasip et al. (2017). However, it does not match the research results of Matt et al. (2015).

Regarding the variable of self-confidence, with a weight of 0.055, it affects the creation of a business. This research showed that there is a relationship between self-confidence and entrepreneurial intention. Fear of success as an obstacle to personal growth and development makes people less motivated to show their abilities. The results obtained are consistent with the research results of Nasip et al. (2017). Regarding risk appetite, it is concluded that there is a significant positive relationship between risk appetite and business creation with a weight of 0.105; that is, with the increase in risk tolerance, the entrepreneurial intention also increases since the risk is the basis of It is considered entrepreneurship and also, being an entrepreneur requires high-risk tolerance, especially in today's environment which is very competitive, complex, dynamic and uncertain. The obtained results are consistent with the research results of Nasip et al. (2017).

The need for success dimension with a weight of 0.062 has an impact on creating a business. McClelland concluded from his research that the desire for success is more robust in people who start their economic activities, and then he concluded that there is a desire for success in people who are successful in entrepreneurial activities. The obtained results are consistent with the research results of Nasip et al. (2017) and Matt et al. (2015).

Regarding tolerance of ambiguity, the results of the investigation of this question showed that the variable of tolerance of ambiguity with a weight of 0.094 affects creating a business. The results obtained are consistent with the research results of Nasip et al. (2017).

The attitude towards the behavior with a weight of 0.094 has a strong relationship with creating a business. This result indicates that the formation of business behavior is more based on individual considerations.

The results obtained from this research are consistent with the research results of Shaw and Simro (2017).

Regarding the control index, with a coefficient of 0.082, it has a significant relationship with creating a business. This result indicates that the formation of business creation is based on individual considerations rather than normative and social considerations. Deciding on a future career may be of little importance to a person, and he may pay less attention to the opinions and opinions of others in this regard. In other words, deciding about the identity of people, that is, how they perceive themselves as a person, how they evaluate themselves, and what actions and behaviors they consider themselves capable and willing to perform. The motivations, interests, internal forces, and, finally, aquaculture's psychological structure and personality are made and discussed in this way. Many of the abilities and capabilities necessary for business and work, such as determination for change and innovation, leadership, and risk tolerance, are more consistent in these people. These results are consistent with the results of previous studies such as Karimi et al. (2014). , and Kueh and others (2012), But it does not match with the research results of Shaw and Simro (2017).

Regarding mental norms, a weight of 0.105 affects business creation. This result indicates that the formation of business ethics is based on individual considerations rather than normative and social considerations. The results obtained from this research are consistent with the research results of Shaw and Simro (2017) and Otto et al. (2001). However, it does not match the research results of Matt et al. (2015).

**Application suggestions**

Based on the results obtained from this research, it is suggested that the organizations and institutions in charge of policy making in the matter of work, holding psychological courses in order to strengthen the personality traits that influence the creation of business among fish farmers, should lead to economic.

According to the research findings, paying attention to the relationship between the components of psychological characteristics and business is suggested by setting up an appropriate curriculum and providing rich and practical materials and content related to these characteristics in courses such as the Basics of Creating a Business. Moreover, work, the elements of creativity and innovation, risk-taking, and strengthening the place of internal control should be cultivated and institutionalized in the depths of the minds of people and knowledge receivers. Considering the importance of developing these characteristics in every member of society, especially youths, teenagers, and young children who are the builders of the future of their country, this action can be planned and structured in the long term from school and elementary and preschool education. Moreover, with a practical and workshop approach, it should be implemented in the country's education system.

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