2528-9705

Örgütsel Davranış Araştırmaları Dergisi
Journal Of Organizational Behavior Research
Cilt / Vol.: 8, Sayı / Is.: S, Yıl/Year: 2023, Kod/ID: 23S0-972

Identifying the dimensions, factors and components affecting the development of innovation in the aluminum industry

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ABSTRACT

The purpose of this study is to investigate and identify the dimensions, factors and components that affect the development of innovation in the aluminum industry and to assess the impact and priority of each dimension, factors and components in this industry in relevant factories.
This study was a descriptive study that the method was with the theoretical heat (grounded theory) in order to identify the dimensions and components of the organizational entrepreneurship model in the aluminum industry, about 40 hours of open and semi-structured interviews with 16 experts and academic experts in the field of entrepreneurship and senior managers and experts active in the industry familiar with the concepts of entrepreneurship) It took place.
Sub-components were identified in the form of 9 main dimensions, 75 sub-components were identified. These molecules are ultimately divided into nine main dimensions, which include organizational resources, organizational capabilities, organizational structural quality, institutional quality, micro results Macro results, entrepreneurial personality traits of managers and employees, entrepreneurial culture and entrepreneurial leadership.

Keywords: *Entrepreneurship, Corporate Entrepreneurship, Innovation, Aluminum Industries*

INTRODUCTION

Entrepreneurship is the cause of economic growth and development in many developing and developing countries, as a result of seriousness and perseverance in the optimal use of opportunities.
In the evolutionary process and the process of explaining the concept of entrepreneurship, various features, functions and roles are attributed to entrepreneurs.
Robert Hicrich sees "the process of entrepreneurship as a new thing that, together with spending a lot of time and effort, and accepting financial, psychological and social risks to obtain financial resources, personal satisfaction and independence The result of this process is a systematic activity that links creativity and innovation to market needs and opportunities.
Therefore, the recognition and exploitation of opportunities has been considered as the main theme of entrepreneurship science. Without studying the mechanisms and factors affecting the development and growth of entrepreneurial opportunities, one can not understand the whole of entrepreneurship (Hermann and dent, 2015).Entrepreneurship forces are rooted in the power

of individual or collective initiative established by passion and commitment (Benjamin, 2007). Entrepreneurship has an attitude and behavioral subsections. It is an attitude, a willingness of an individual or organization to take advantage of opportunities and make changes, and behavioral measures are taken to identify and measure an opportunity (Stenson,and et, 1985). In general, entrepreneurship can be regarded as a disturbing force for the economy, entrepreneurship is changing economic and social conditions in order to create appropriate situations (Wang and his colleagues, 2011). Hence, emerging economies must strengthen their institutional context for providing high standards for organizational development (Clark, 2015), as well as maintain their balance between different stakeholders and the government, to prevent the creation of unequal positions (Cardinals, 2010) in the market as well as appropriate business opportunities (Flores, 2019)

Companies that are keen to take advantage of the entrepreneurial strategy they need to understand this strategy well and put core entrepreneurial activities such as discovering and exploiting opportunities within the main activities related to their company's main strategies. In this regard, and in order to achieve this goal within the company, the current strategies of companies must be new and from the perspective of organizational entrepreneurship To be reviewed and revised, future strategies, along with their missions and missions, will be designed to create an entrepreneurial spirit in all aspects and components of the company's existence (Ireland and et, 2009). Also, corporate entrepreneurship means the company's commitment to creating and introducing new products, new processes and new organizational systems (Koratko and Ordish, 2013). Stauner and his colleagues (1995) define entrepreneurship as follows: Entrepreneurship involves the development of entrepreneurial behaviors within the established organization.

In fact, corporate entrepreneurship is a dynamic concept that is important every year in terms of significant growth; therefore, addressing the challenges of future managers in this area is periodically necessary. (Koratko and Hornsfam, 2015)

In short This means that the company can develop profitable innovations by encouraging employees to think like entrepreneurs and give them the freedom and flexibility to pursue the project without engaging them in a bureaucratic stagnation (Moghimi, 2013)

The findings of a large part of the research done in this area are shown that intra-organizational factors play an important role in encouraging organizational entrepreneurship (Andrew, 2003). innovation helps organizations to cope with the turbulence of the external environment in dynamic markets and achieve long-term goals. (Shin and Daniel, 2015).

Entrepreneurship has gained its importance in the West since the middle of the last century. This is a cultural reality (Sahin and Daniel, 2015) and in Iran, the existence of a gap between resources and facilities on the one hand and the diverse needs of the human community on the other requires the involvement and role of mankind. It is necessary to note that knowledgeable companies, whose knowledge and technology are among their most important components, have always been able to produce their knowledge products in various fields, so that industries benefit from their capabilities. Aluminum is one of the areas that knowledgeable companies are able to provide the products needed by this industry.

In addition, today, innovation is a factor in long-term competitiveness, innovation is an essential factor in increasing production. In addition, innovation is a factor in promoting the knowledge economy, but traditional insight is changing from the innovation process, old patterns lose their efficiency in innovation, and this process is being introduced as a system and a network of dimensions and elements. According to new studies in this section, cooperation between industry and university sectors is necessary to promote innovation (Philpot et al., 2011).
Measuring innovation at the firm level to decide on the amount of resource allocation to innovation activities and to select areas where innovation promises a high economic return, as well as managing the strategies of innovation within the company. At the national level, policymakers also need to understand the status quo, the process of future developments Getting feedback from the positive and negative effects of existing policies and developing appropriate policies requires information obtained from the measurement of innovation, so in this research we seek to provide an organizational entrepreneurship model in the mineral industry.

Theoretical foundations of Research

The concept of entrepreneurship
Based on Burglman's work (1983), entrepreneurial researchers have upgraded our knowledge of how individuals or groups within an organization innovate or create new innovations (Des and colleagues, 2003;).
Entrepreneurship is a company for educated companies, because the intensified competition with startups and other companies forces them to maintain their competitive advantage with innovation, courage, risk taking and entrepreneurial leadership (Kuratko 2009).
Some writers have also significantly expanded the concept of entrepreneurship (Corbett, Quinn, O'Connor and Tucci, 2013). Some researchers believe that the two structure of the company and strategic entrepreneurship are what defines corporate entrepreneurship. Corporate entrepreneurship includes orientation in established organizations and entrepreneurial behavior.
Although corporate entrepreneurship can lead to competitive advantage, it also comes with some challenges. Official organizations also consider creating a competitive advantage in a particular situation as challenging. Duncan, Ginter and Soin (1997) define competitive advantage as "the result of the difference in sustainable value between the services of an organization and competitor services in the customer's mentality." Maurice and colleagues (2011) believe that competitive advantage in organizations can be achieved by "adaptability, flexibility, speed, leading and innovating", so that they can be adapted to a complex, dynamic environment and also be able to make changes in that environment.
Corporate entrepreneurship is a useful strategy that all organizations that seek innovation and development should be able to adopt (Bani Mostafa and colleagues 2021). It also reflects the willingness and participation of an organization to achieve their vision (duo and lo, 2022).
In corporate entrepreneurship, emphasis should be placed on innovation in company performance. The positive impact of organizational innovation on organizational effectiveness is clear. (Naved 2022)

The importance of Corporate Entrepreneurship

Gancho (2006) points out that experience has so far shown that superior organizational performance can be achieved through corporate entrepreneurship. The study of literature shows that corporate entrepreneurship is able to improve the performance and the development of inter-organizational competition

The importance of corporate entrepreneurship is further determined that national organizations and economies can move toward success through institutional entrepreneurship (Hu et al., 2016). Corporate entrepreneurship and successful businesses lead to job opportunities, poverty reduction, competitive environment, economic growth and new investment (Osborne, 2009). Alma Ajadi, Swiss Biostatt Limited, said that the promotion of companies leads to income generation, independent wealth economic benefits and Entrepreneurship Development (Naugoji, 2016). Most importantly, corporate entrepreneurship is useful for bringing positive organizational results (Kasa and Tsigo, 2020).

Entrepreneurs

Entrepreneurship literature claims that entrepreneurial organizations are characterized by a set of organizational attitudes and behaviors (Lyon, Lampenkin and Des, 2001;), ability, innovative behaviors encourage and reward. Drucker (1985) noted that entrepreneurship is based on the same principles, whether an entrepreneur is working in a large organization or a person who starts a new business. Entrepreneurship management is related to all types of organizations, regardless of whether the organization is a profit-making business, a public service agency, a nonprofit group or a government institution.

Literature describing entrepreneurial efforts related to existing organizations confirms the possible integration between organizational management and entrepreneurship, which includes corporate entrepreneurship (Zahra, Ireland, and Heath, 2000).

Entrepreneurs are flexible and compatible and are far from bureaucratic and mechanical organizations (Brach, 1987). When you put entrepreneurial organizations in front of traditional organizations, complex issues give way to brief definitions (Cornwall and Perlman, 1990).

Innovation

Globalization, rapid technological advances and shortening the product life cycle increase competition, so companies need continuous innovation in their business, processes or products (Kuratko et al., 2004). . That's why companies invest in innovation, because innovation is vital for companies that are trying to survive and grow in a dynamic business environment (Jung, Cho and Wu, 2003)

Many researchers have presented various definitions of innovation. Bauer and Drein (2001) consider innovation to be a change or renewal in one or a combination of technology, product, organization or market. The European Commission (1999) describes the definition of innovation as profitable production, absorption and utilization of novelty in social and financial areas. Another definition of innovation is the OSLO Handbook (2018): "Innovation is the implementation of a new product that has been significantly improved (goods or services), or process, a new marketing method, or a new organizational method in business, workplace practices. Organization or foreign relations. In all the above definitions, innovation is the main aspect of innovation.

In Table 1, a review of the research carried out on the subject of the research has been carried out.

Table 1. Summary of the internal background of the research

Researcher name	Research time	Research title	Conclusion
Sharafati Nejad and colleagues	1398	Designing an Organizational Entrepreneurship Model in the Iranian Textile Industries	It represented the dramatic role of structural and environmental factors in the textile industry, as well as the strategy and components of organizational entrepreneurship on the textile industry
Unity of work and vacuum	1398	Presentation of Technology-based Entrepreneurship Model in organizations; case Study: The Intelligence Project of the Bus Organization of Tehran	An entrepreneur who is within the framework of the organization's limitations is not necessarily technology, butuses technology to improve the performance indicators of the organization.
Kallabi and colleagues	1397	4	The renewal of entrepreneurship strategy is considered as a process that uses organizational capabilities to balance productivity and explore opportunities.
Ziaei Kia and colleagues	1397	The effects of Organizational Entrepreneurship Strategy on Companies affiliated with the Organization for the Development and Renovation of Mines and Mineral Industries of Iran	The elements that form an organizational entrepreneurship strategy include an entrepreneurial strategic view, organizational architecture supports the entrepreneurial strategy, and entrepreneurial orientation and behaviors

Researcher name	Research time	Research title	Conclusion
Hassan	2021	The relationship between intellectual capital and organizational trust and its impact on achieving the requirements of an entrepreneurial strategy	Organizational entrepreneurship was described as a strategic trend that involves changing products, processes, services, and strategies of the whole organization.

Researcher name	Research time	Research title	Conclusion
Shahata	2020	Investigating the relationship between Human Resources Management methods, entrepreneurial characteristics and Corporate Entrepreneurship in emerging Markets	Organizational entrepreneurship requires the creation and development of an entrepreneurial culture in business to improve the innovation capacity of an organization
Martin Rojas	2019	Entrepreneurship technological records and its implications for organizational performance	The role of senior managers in organizational entrepreneurship is very important.
Wales and colleagues	2019	Entrepreneurship orientation: International, Global and International Cultural Research.	Organizational entrepreneurshipis considered as a process for restoring the ability to participate in achieving and implementing innovative skills and employee abilities
Stein	2018	Corporate Entrepreneurship Assessment.	Organizational entrepreneurship is influenced by the ability to learn the organization through the search for new knowledge and the exploitation of existing knowledge.
Hard and poor	2018	The role of moderators of entrepreneurship management in the relationship between attracting capacity and corporate entrepreneurship.	The development ofcorporate entrepreneurship activities is carried out through the acceptance of entrepreneurial style management elements
Kuratko and colleagues	2017	Provide a new scale for assessing organizational entrepreneurship in companies	One of the important and effective factors on the design-based organizational entrepreneurship strategy is the social factor.
Simesc and colleagues	2017	Provide an important and comprehensive framework for strategic entrepreneurship	Entrepreneurial thinking, entrepreneurial culture, entrepreneurial leadership, strategic resource management, and purposeful use of creativity to create innovation are the main dimensions of strategic entrepreneurship.

research methodology

This study was a descriptive research that was conducted with Grounded Theory. In order to identify the dimensions and components of the organizational entrepreneurship model in the aluminum industry, about 40 hours of open and semi-structured interviews were conducted with sample members (academic experts and specialists in the field of entrepreneurship and managers and senior experts active in this industry who are familiar with entrepreneurship concepts) . Sampling was done purposefully. After interviewing 13 members of the community, it was observed that no new information was obtained from the data analysis. However, in order to be more sure, the interviews were continued and after 16 interviews, it was observed that no new findings were obtained from the interviews, thus theoretical saturation was ensured and the process of interviews was stopped.

After identifying the underlying variables of the studied phenomenon, an nxn square matrix of existing variables is designed. This matrix is actually the ISM questionnaire and consists of research variables and their comparison using four modes of conceptual relationships. This matrix is completed by experts and specialists and the resulting information is summarized based on the interpretive structural modeling method. In this regard, the relationships between the variables are determined by using the symbols introduced below.
A: One-way communication from j to i
V: one-way communication from i to j
X: Two-way communication between i and j
O: There is no relationship between i and j.
In this research, to measure the reliability of the interviews, retest reliability methods and agreement between two coders were used. In order to ensure the validity of the interviews, strategies for enhancing and improving validity in qualitative research provided by Johnson (1997) were used.

findings

Description of demographic characteristics
In this section, the demographic characteristics of the people who were interviewed are explained. The characteristics that are analyzed in this section are: education, field of activity and work experience. Table (2) examines the mentioned characteristics.

Table 2- Demographic characteristics of the statistical sample

Education	Field of activity	Work experience
Bachelor	Director of Aluminum Industry	23
Phd	Faculty Member of the University	16
Master's degree	Director of Aluminum Industry	12
Bachelor	Director of Aluminum Industry	7
Bachelor	Expert in aluminum industry	15
Phd	Graduate of Entrepreneurship	22

Education	Field of activity	Work experience
Phd	Expert in aluminum industry	13
Master's degree	Director of Aluminum Industry	6
Bachelor	Expert in aluminum industry	3
Master's degree	Director of Aluminum Industry	17
Master's degree	Graduate of Entrepreneurship	25
Master's degree	Expert in aluminum industry	13
Phd	Director of Aluminum Industry	11
Master's degree	Graduate of Entrepreneurship	19
Phd	Faculty Member of the University	8
Master's degree	Director of Aluminum Industry	9

Coding of interviews

The summary of the interviews and the classification of the dimensions and components of the organizational entrepreneurship model in the aluminum industry are listed in Table 3.

Table 3- Coding of interviews

Axial code	Open code		
Organizational Resources	Utilizing modern technologies	Entrepreneurial culture	System thinking in the organization
	Access to financial resources		Entrepreneurial thinking in the organization
	Access to knowledge and technical expertise		The spirit ofinnovation and idea in the organization
	Collaboration with research centers and universities		Cooperation culture and teamwork
	The existence of entrepreneurial forces		Axial result
	Access to consulting services		Freedom of action
Organizational capabilities	Cost management capability		Market orientation
	Knowledge management		Future thinking
	Manage optimal consumption of raw materials		Innovation open
	Manage optimal energy consumption	Entrepreneurial leadership	Organizational environment supporting entrepreneurship
	Ability to manage the rbask		Investing in research and development
	Continuous improvement of processes		The support of leaders and senior executives from entrepreneurial action
	Ability to adapt to environmental changes		There are formal and formal programs for organizational entrepreneurship
	Operational capabilities		Strategic thinking of managers
	Ability to recognize market demand and demand		Reward and motivation system based on innovation and value creation
			Organization-centered strategy

	Ability to identify business opportunities		Long-term attitude of managers
	Ability to analyze the business environment		Encouraging employees to act as entrepreneurs
	Organizational learning capability		
	Ability to attract financial resources		
	Multifaceted thinking		
	Identify the market gap		
	Establishing a strong relationship network with other organizations		
	Ability to attract knowledge		
	Ability to analyze failures		
	The past experience of organizational entrepreneurship		
Structural quality of the organization	Organizational agility		
	Flat and non-hierarchical organizational structure		
	Flow of information and communication in the organization		
	Decentralized structure		
	Minor recognition		
	Unofficial control		
Institutional quality	Government support policies		
	Environmental dynamics		
	Economic stability		
	Stability of policy and regulations		
	Effective regulations and procedures		
	Suitable platforms and infrastructure for entrepreneurship		
	Security of physical and spiritual assets		

Micro results	Creating competitive advantage	
	Increasing competitiveness	
	Increase sales volume and income	
	The growth and expansion of the organization	
	Customer satisfaction	
	Profitability of the organization	
	Market development	
	Product Development	
Macro results	Job creation	
	Development of industry	
	Economic Development	
	Currency exchange	
	Increasing national production	
Characteristics of entrepreneurial personality of managers and employees	Same approval	
	Risk taking	
	Accept change	
	Flexibility	
	Self-confidence	
	Challenging	

Based on the results of Table 3, a total of 75 sub-components in the form of 9 main dimensions were identified as the dimensions and components of the organizational entrepreneurship model in the aluminum industry. Based on this, we can say organizational resources with 6 components; organizational capabilities with 19 components; the structural quality of the organization with 6 components; institutional quality with 7 components; micro results with 8 components; macro results with 5 components; entrepreneurial personality traits of managers and employees with 6 components; Entrepreneurial culture with 10 components and entrepreneurial leadership with 8 components are the dimensions and components of the organizational entrepreneurship model in the aluminum industry that have been identified in this research.

Reliability of the test and agreement between two coders

In the current research, in order to calculate the reliability of the test, three interviews were selected from among the interviews and coded by the researcher twice, observing the time interval; Then the extracted codes were compared with each other in two time intervals for each of the interviews and the retest reliability index was calculated.

In order to calculate the agreement between the two coders, three interviews were selected from among the interviews and re-coded by inviting a colleague (PhD student of Entrepreneurship); Then, the extracted codes were compared by the researcher and colleague for each of the interviews and the intra-subject reliability index was calculated. So that the codings done by two researchers that are similar to each other or close to each other are determined as agreement and non-similar codes are determined as non-agreement. It is necessary to explain that the values of more than 0.7 for the retest reliability of the agreement between two coders indicate the suitability of the reliability of the interviews.

Table4- total number of codes

Total number of code	Total number of agreements	Number of unagreements	Re-test reliability (%)
28	13	2	93%
31	14	3	90%
22	11	0	100%
81	38	5	94%
Total number of code	Total number of agreements	Number of unagreements	Reliability between two codes (percent)
30	12	6	80%
29	11	7	76%
24	9	6	75%
83	32	19	77%

As can be seen in table (4), the total number of codes recorded by the researcher in two time periods is equal to 81 codes, of which the total number of agreements is 38 and the total number of non-agreements is 5 codes. Based on this, the retest reliability is calculated to be 94% and is acceptable.

The total number of codes recorded by two researchers was 83 codes, of which the total number of agreements was 32 codes and the total number of non-agreements was 19 codes. Based on this, the intra-subject reliability of 77% was calculated and is acceptable.

Investigating relationships between variables

To design the pattern of complex and multiple relationships between variables, 15 members of the sample were selected in the qualitative section and they were asked to express their opinions about the relationships between the identified variables. Then, based on the frequency of answers given regarding the relationships between the variables, the self-interaction matrix was designed

as can be seen below, and then the relationships between the research variables were explained. In the first step, a structural self-interaction matrix was formed as shown in the table.

Table 5- Self-interaction matrix to identify the components of the organizational entrepreneurship model

Variables	1	2	3	4	5	6	7	8	9	10
1.Organizition entrepreneur		A	A	O	A	A	V. the	V. the	A	A
2. entrepreneurial culture			O	O	A	V. the	O	O	A	O
3.Organizational resources				O	O	O	O	O	O	V. the
4Institutional quality					O	O	O	O	O	O
5Entrepreneurial leadership						V. the	O	O	A	O
6Structural quality of the organization							O	O	O	O
7macro results								A	O	O
8wisdom results									O	O
9Entrepreneurial characteristics of managers										O
10 Organizational capabilities										

Then the received matrix is obtained by transforming the structural self-interaction matrix into a two-valued matrix of zero and one. To extract the received matrix, in each row of the self-interaction matrix, the number one is used instead of the signs X and V, and the number zero is used instead of the signs A and O. In this matrix, the dimensions of the main diameter are equal to one. Table (6) shows the initial receipt matrix of the organizational entrepreneurship model in the aluminum industry

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Table 6- Initial receipt matrix of organizational entrepreneurship model in aluminum industry

Variables	1	2	3	4	5	6	7	8	9	10
1.Organizition entrepreneur	1	0	0	0	0	0	1	1	0	0
2. entrepreneurial culture	1	1	0	0	0	1	0	0	0	0
3.Organizational resources	1	0	1	0	0	0	0	0	0	1
4Institutional quality	0	0	0	1	0	0	0	0	0	0
5Entrepreneurial leadership	1	1	0	0	1	1	0	0	0	0
6Structural quality of the organization	1	0	0	0	0	1	0	0	0	0
7macro results	0	0	0	0	0	0	1	0	0	0

8wisdom results	0	0	0	0	0	0	1	1	0	0
9Entrepreneurial characteristics of managers	1	1	0	0	1	0	0	0	1	0
10 Organizational capabilities	1	0	0	0	0	0	0	0	0	1

After the matrix is converted into a zero and one matrix, the secondary matrix must be designed. In a receiving matrix, secondary relationships must be controlled for reliability. That is, if A leads to B and B leads to C, then A must lead to C. That is, if direct effects should have been included based on secondary relationships, but this did not happen in practice, the table should be corrected and the secondary relationship should be shown as well. In addition, in this table, the degree of dependence and influence of each component is determined. Table (7) shows the final receipt matrix of the organizational entrepreneurship model in the aluminum industry. In this table, the symbol 1* is used to indicate changes in the final received matrix.

Table 7- The final receipt matrix of the organizational entrepreneurship model in the aluminum industry

Variables	1	2	3	4	5	6	7	8	9	10	Penetration rate
1.Organizition entrepreneur	1	0	0	0	0	0	1	1	0	0	3
2. entrepreneurial culture	1	1	0	0	0	1	1*	1*	0	0	5
3.Organizational resources	1	0	1	0	0	0	1*	1*	0	1	5
4Institutional quality	0	0	0	1	0	0	0	0	0	0	1
5Entrepreneurial leadership	1	1	0	0	1	1	1*	1*	0	0	6
6Structural quality of the organization	1	0	0	0	0	1	1*	1*	0	0	4
7macro results	0	0	0	0	0	0	1	0	0	0	1
8wisdom results	0	0	0	0	0	0	1	1	0	0	2
9Entrepreneurial characteristics of managers	1	1	0	0	1	1*	1*	1*	1	0	7
10 Organizational capabilities	1	0	0	0	0	0	1*	1*	0	1	4
Variables	7	3	1	1	2	4	9	8	1	2	

In order to level the factors, it is necessary that the factors whose sharing set is the same as their receiving set are considered as high-level variables in the ISM hierarchy, which means that these factors have less influence on other factors. After identifying the factors of the highest level, those factors are removed from the list of factors. These iterations continue until the levels of all factors are identified, and the identified levels will be used in building the final ISM model.

table 8- last repetition

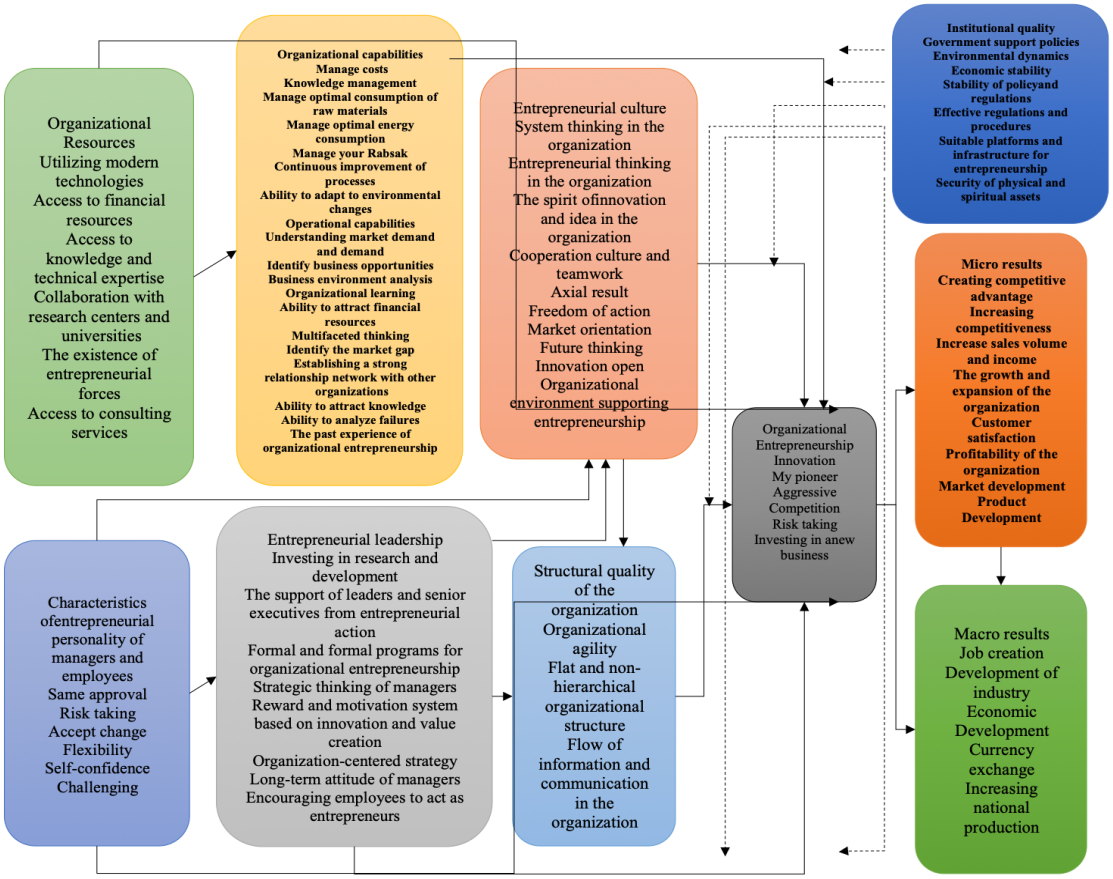
Variables	Received collection	Introductory Suite	Collection of subscriptions	Surface
9	9	9	9	7

Finally, the desired structural model of the problem is created from the final received matrix and with the help of MICMAC analysis results in the fifth step. In such a way that if there is a relationship between variable i and variable j, it is indicated by a directional arrow. It is necessary to explain, based on the findings, the variable of institutional quality has been identified as an independent variable; So that at first glance it seems that it is not possible to establish relationships between this variable and other variables of the model. But after consulting with the sample members, it was concluded that the variable of institutional quality was entered into the model as a moderating variable. Based on this, Figure 1 shows the interpretive model of organizational entrepreneurship in the aluminum industry.

Figure 1- The comprehensive model of organizational entrepreneurship in the aluminum industry

Conclusion

In this research, the dimensions, factors and components affecting the development of innovation in the aluminum industry were identified, and sub-components were identified in the form of 9 main dimensions and 75 sub-components. These components are finally divided into 9 main dimensions, which are organizational resources, organizational capabilities, organizational structural quality, institutional quality, micro-results, macro-results, entrepreneurial personality traits of managers and employees, entrepreneurial culture and entrepreneurial leadership. The findings of this research are consistent with previous studies in the field of organizational entrepreneurship. These adaptations not only increase the practical applicability of the model, but also confirm the importance and validity of this model. Emphasizing the different dimensions and components of the model, this research has been able to analyze the most important factors affecting organizational entrepreneurship in the



aluminum industry.

Compared to previous studies, the dimensions of the organizational entrepreneurship model identified in this study are significantly consistent with the components that have been emphasized in previous studies. For example, organizational capabilities, which refer to the organization's internal capabilities and resources, have been considered as one of the key components of organizational entrepreneurship in previous researches. Similar matches can be seen in other components.

In contrast, our analysis of interviews and data analysis also identifies dimensions and aspects of organizational entrepreneurship that have not been comprehensively explored in previous research. For example, emphasizing the entrepreneurial personality traits of managers and employees as one of the main dimensions in this model is one of the points that have not been paid enough attention in previous research.

In addition to meaningful matches, differences are also observed in some components and dimensions. These differences may be returned to the environmental factors and specific conditions of the aluminum industry that have been researched. According to the similarities and differences observed, it can be concluded that this research has contributed to the expansion of existing knowledge in the field of organizational entrepreneurship in the aluminum industry and also It emphasizes that our proposed model can be used as a valid framework for analyzing organizational entrepreneurship in this industry.

Previous researches in the field of organizational entrepreneurship have also identified many similar dimensions and components as key success factors in this field. In a study conducted by Johnson and Clark (2016), organizational resources, organizational capabilities and entrepreneurial outcomes were examined as important dimensions of organizational entrepreneurship in the steel industry (Johnson and Clark, 2016). This study emphasizes the impact of human resources, technical capabilities, and performance outcomes on organizational entrepreneurship, which is consistent with current research in the aluminum industry.

Also, a study conducted by Wales et al. (2018) also showed that the structural quality of the organization, institutional quality and entrepreneurial culture are known as effective factors on organizational entrepreneurship in various industries, including metal and mining (Walse et al., 2018). This study shows a stronger agreement between the findings of the present research and previous studies.

In a research conducted by Yousefi et al. (2020) in the field of organizational entrepreneurship in the petrochemical industry, factors such as macro results and institutional quality were identified as the basic factors of organizational entrepreneurship (Yousefi et al., 2020). These cases also agree with the components of the model presented in this research and confirm the importance of different dimensions in organizational entrepreneurship.

In addition, the proposed model in this research also covers the components that have been emphasized in previous studies. For example, components such as "organizational capabilities", which were proposed by Crawford et al. (2017) as an important factor in the success of organizational entrepreneurship, have also been identified as one of the main dimensions in this model.

The results of this research agree with the results of previous research in the field of organizational entrepreneurship in the aluminum industry. Eisenberg and Bishop (2018) were used in the research on factors affecting organizational entrepreneurship in the automotive

metal industry. The results of this research have also analyzed in detail the various components of organizational entrepreneurship in the studied industry and have reached similar findings to this research through interviews. These correspondences show that the components of organizational entrepreneurship in the aluminum industry are also largely compatible with the factors affecting entrepreneurship in similar industries (Eisenberg and Bishop, 2018).

Also, the findings of this research have significant differences in the field of organizational entrepreneurship model in the steel industry. In the study of Christian et al. (2020), the focus was more on the dimensions of entrepreneurial capabilities and its relationship with organizational performance. While the current research has dealt with more dimensions and components and presented more detailed results. These differences show diversity and adaptation to different environments of industries (Kristian et al., 2020).

Implementation and implementation of training programs based on this model can lead to empowering employees to better analyze issues and promote entrepreneurial culture.

Organizations can evaluate their current situation and identify their strengths and weaknesses by using the organizational entrepreneurship model. Then, according to this analysis, formulate strategic plans to improve and promote entrepreneurship and their performance.

Among the things that can be investigated in future research are:

• Evaluation of the impact of implementing this model on the performance and success of organizations in the aluminum industry.

• Comparing this model with other organizational entrepreneurship models in other industries and environments.

Acknowledgment:
Conflict of Interest:
Funding:
Ethical statements :

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