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Designing A Technological Business Model with A Strategic Entrepreneurship Approach in Public Organizations: A Survey of Tehran`s Municipality, Iran

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ABSTRACT

The purpose of this article is to designing a technological business model with a strategic entrepreneurship approach in Municipality of Tehran Region 5. The research participants includes theoretical experts (university professors) and experimental experts (municipal managers). Theme analysis and MaxQDA software were used to identify the underlying categories of the technological business model with a strategic entrepreneurship approach. Also structural-interpretive modeling method and MicMac software were also used to identify the relationships between categories. Research findings showed that strategic entrepreneurship and entrepreneurial leadership have an impact on entrepreneurial orientation, entrepreneurial policy and entrepreneurial culture. These factors also affect technological entrepreneurship and urban entrepreneurship. Finally, technological entrepreneurship and urban entrepreneurship has significant impact on technological business.

INTRODUCTION

Technological business, by combining the two main elements of technology and business, enables the transformation of technological opportunities into valuable market-oriented products. In this regard, entrepreneurship plays a central role, which includes creating ideas, bearing risk, forming a technological company, managing methods of optimal use of

technology-oriented opportunities, and finding problems or applications for a technology. Technological entrepreneurs also use innovation and technology to form a business to use by turning resources into goods and services and creating a suitable environment for industrial growth. In this way, the growth and development of such businesses will strengthen the economic foundations of societies at micro and macro levels and lead to employment and sustainable development. Technological businesses are an emerging phenomenon that have gained great importance in recent years due to their irreplaceable role in industry modernization, economic growth, employment creation, wealth and prosperity in society. The importance of such an approach can be considered as a result of the importance of finding the spouses of technological innovation and entrepreneurship.

In other words, it is through entrepreneurship that one can achieve the creation, growth and expansion of technology-based businesses (Khavari, Seraji and yousefzadeh chosari, 2023). Entrepreneurship and technology are two categories that are closely related to each other and play a role in the creation, growth and development of new businesses. Technological entrepreneurship can be considered a strategic choice that plays a fundamental role for individuals and companies to enter a new market or a new field of business. In fact, it is a method and mechanism for discovering, exploiting and searching for market opportunities that can be hunted with technology (Battisti, Agarwal and Brem, 2022). Technological entrepreneurship is a business leadership style that includes identifying technological opportunities and having a high growth capability, gathering resources and finally managing rapid growth and its significant risk with regard to the acquisition of special decision-making skills. This concept is dedicated to the processes through which entrepreneurs use organizational resources and technical systems and strategies to achieve opportunities in entrepreneurial organizations. Such businesses are driving the revolution that has led to digital transformation and economic modernization across the globe.

Applying technology creates a special ability within the business and leads the business in the direction of fundamental transformation. Therefore, businesses must provide the conditions for the emergence of technology-based entrepreneurial behaviors. In this regard, one of the management actions that lead to the facilitation of entrepreneurial behavior is strategic actions. The combination of entrepreneurship and strategic management leads to strategic entrepreneurship and ultimately facilitates the discovery and creation of entrepreneurial opportunities (Urbano *et al.*, 2019). The development of technological and entrepreneurial businesses requires government support, especially in Iran, where the government is the main guardian of the economy. Public organizations have formal hierarchies, they have different stakeholders, their organizational culture is very fixed and unchanging, they have many rules and procedures to guide and regulate activities, and managers use inflexible systems for financial control, cost allocation, and rewards. Also, managers do not have much autonomy. Entrepreneurship in public organizations refers to the innovative activities of the public sector in order to keep pace with technology and environmental changes to provide better services to citizens.

This approach has been developed in line with goals such as creating employment opportunities and improving public welfare (Hayter, Link and Scott, 2018; Arnold, 2019). Although public entrepreneurship has recently received attention in academic discussions, it has a long and historical root. After the second world war, public organizations became an important tool for all the governments of the world to pursue economic development in order to achieve specific social goals (Aslam, Iqbal and Ahmed, 2022). Among the public institutions that play a significant role in the development of entrepreneurship and entrepreneurial businesses are municipalities. Municipalities should reconsider their traditional approaches with a strategic view regarding the promotion of entrepreneurship and emergence of

entrepreneurial opportunities. By changing the structure of the municipality and allocating flexible and dynamic sectors to support entrepreneurs, it is possible to prepare the ground for using entrepreneurial opportunities. Also, the existence of full-time career counselors in the municipality is useful for communication and systematic guidance and discovering entrepreneurial opportunities (Khosravi, 2022)

As an institution that deals directly with citizens and their social and economic status, the municipality should benefit from the benefits of entrepreneurship. Therefore, the involvement of citizens with entrepreneurship improved service delivery in the field of urban management. Nevertheless, the country's municipalities have not been successful in the field of entrepreneurship, and one of the reasons for that can be considered the lack of a strategic entrepreneurship approach (Najafi, Baghban and Monjazeb, 2022). Any country that wants to compete and achieve growth and development while maintaining the status quo, must have a scientific view on technology, technological innovation, their management and knowledge-based economy. Nevertheless, the investigation of these companies in Iran shows that most of them consider the traditional approach based on closed innovation for the process of technological entrepreneurship, which has caused them to be unsuccessful in this field (Saber Kohne Goorabi, Iranmanesh and Jafari, 2021)

Achieving the goals of the development vision, the goals of the 6th development plan and other economic development goals of the country requires proper foundation and infrastructure for the realization of technological businesses in the literal sense of the word. The growth and expansion of technological businesses provides the basis for keeping pace with technological developments in the world and leads to job creation and economic development. Since the municipality plays a very key role in supporting and providing a platform for entrepreneurial activities and developing entrepreneurial opportunities, it can play a role in the growth and prosperity of technological businesses in the country. This importance can only be achieved in the shadow of strategic planning and with a strategic, macro, long-term and inclusive view. This is while the review of previous studies shows that less research has been done focusing on technological businesses in the country.

In addition to the existing theoretical gap in practice, implementation projects in the field of support, growth and development of technological businesses in public institutions and specifically in municipalities have not been implemented in Iran. Therefore, this research has been conducted with the aim of filling the theoretical and empirical gap in the field of entrepreneurial businesses. The theoretical synergy (research contribution) is to provide a practical model for the development of technological businesses based on strategic entrepreneurship specifically for the municipality by identifying the underlying categories and the causal relationships between them. In this way, by using this model, municipalities can transform from a passive and non-creative institution to a dynamic institution in the field of technology. The present study answers the key question, what is the technological business model with strategic entrepreneurship approach in Tehran municipality?

LITERATURE REVIEW & HYPOTHESIS

Technological Business

Various definitions have been provided for technological business. According to one definition, technological business refers to the potential of technological opportunities to successfully create a business. Based on this approach, businesses should create and consolidate their position in the market by taking advantage of the opportunities provided by technology (Binsawad, Sohaib and Hawryszkiewycz, 2018). Also, technological business

refers to a way of business management that is based on the identification of high-value business opportunities based on technology. The existence of such businesses in today's knowledge-based economy is a vital necessity and has been emphasized by the experts of scientific societies and managers and owners of industries. Therefore, the expansion and development of technological businesses should be the focus of attention.

One of the best models for following a balanced business path simultaneously with the "scientific-technical" path that has been observed in successful and leading research and technology organizations in different parts of the world is the creation of centers under the title of technological business development center. The mission of business development centers in research and technology organizations is to implement commercialization requirements in the technology development process and then provide technical, economic and commercial advice and assistance regarding technological achievements entering the commercialization stage. This service is about the basics of business formation for the technological achievements of your organization to its potential and actual customers.

Technology businesses provide products and services that are used in various industries. But basically they are related to research, development and distribution of technology-based goods. It includes businesses that try to offer new products or services to the market by taking advantage of the possibilities and capacities that technology has provided them (Frizzo-Barker *et al.*, 2020). The best part about tech business ideas is that they don't require a lot of money. Entrepreneurs can start small and grow over time. However, to successfully start a business in the industry, in addition to technical knowledge, a detailed and strategic planning is needed (Pereira *et al.*, 2022)

Strategic Entrepreneurship

The study of strategic entrepreneurship began in the early 21st century. In an initial model, four key dimensions were identified for this category, which are: entrepreneurial mindset, strategic human resource management, creativity and innovation development (Duane Ireland and Webb, 2007). Strategic entrepreneurship results from the integration of strategic management knowledge and entrepreneurship. Therefore, defining the words strategy and entrepreneurship is the first step in getting to know more about strategic entrepreneurship. Strategy is the advantage-seeking behavior that enables companies to extract value from existing territories and develop sustainable competitive advantages.

Also, strategy determines the appropriate arrangement of resources, products, processes and systems for companies to deal with uncertainty and to achieve long-term goals. Strategic entrepreneurship is carrying out entrepreneurial activities with strategic perspectives for development and achieving superior performance and carrying out activities designed to create wealth (Zhao, Ishihara and Jennings, 2020). Strategic entrepreneurship acts as a driver to achieve competitive advantage in developed and developing countries, because entrepreneurship is understood as identifying opportunities and strategic management as a factor to turn opportunities into competitive advantage. Studies have shown that strategic entrepreneurship has dimensions through which it seeks entrepreneurial opportunities and obtains a competitive advantage

They have introduced strategic entrepreneurship as a concept that affects the success of today's organizations in competitive exchanges with other competitors and they believe that strategic entrepreneurship can be used by industries and companies to properly respond to the continuous environmental changes that many organizations are facing. and also enables the development of sustainable competitive advantages. Therefore, it should be noted that strategic entrepreneurship is an entrepreneurial activity with a strategic perspective. Entrepreneurial

action can be considered as a strategic action with an entrepreneurial mindset. In general, strategic entrepreneurship is a combination of entrepreneurial (i.e. opportunity-seeking behavior) and strategic (i.e. advantage-seeking) perspectives in order to advance and carry out actions designed to create wealth (Schröder *et al.*, 2021).

Considering the importance of entrepreneurship, this concept has undergone changes and should be looked at with a macro approach. Strategic entrepreneurship includes doing entrepreneurial activities with a comprehensive and long-term perspective (Ferreira, Ratten and Dana, 2017). From this perspective, companies have turned to strategic entrepreneurship because this approach leads to growth and wealth production. Therefore, according to the increasing process of change and environmental developments, companies need strategic entrepreneurship to respond effectively to their environmental needs. Both entrepreneurship and strategic management are approaches that, by providing various models and tools, have made it possible for businesses to create transformation by taking advantage of the opportunities that exist in the business environment, develop businesses and finally create value (Lyver and Lu, 2018). Entrepreneurs have the ability to recognize opportunities that ordinary people seem to miss and fail to discover.

On the other hand, strategic management by providing various tools and models will enable entrepreneurs to take advantage of these identified opportunities to introduce new and beneficial products and services for the competitive market and ultimately create value by relying on competitive capabilities. Therefore, strategic entrepreneurship is one of the most key tools in the hands of managers of organizations to start, develop and revive activities. Although the importance of entrepreneurs in economic growth has been emphasized in various studies, this does not mean that entrepreneurs are completely engaged in productive activities. If the institutional framework is such that the approximate profit in non-productive activities is high, then entrepreneurs will also take advantage of this opportunity. Therefore, in fact, it is these institutions that create a profitable platform for productive opportunities, and entrepreneurs take advantage of these opportunities in order to create wealth (Mashhadi Ahmad and Oraee, 2019).

In general, according to the increasing process of change and environmental developments, organizations and companies need strategic entrepreneurship to respond effectively to their environmental needs. Strategic entrepreneurship as the intersection of strategic management research (search for advantage) and entrepreneurship (search for opportunity) is a new research field that still does not have much consensus on its definition, dimensions and constituent elements, and the few proposed models have limitations. Strategic entrepreneurship has been the focus of domestic researchers since a decade ago in studies such as Malek-Akhlagh *et al.* (2014) and Talebi, Davari and Taghavi (2014). The opinion of domestic researchers has been neglected.

On the other hand, adopting a technological approach in the field of entrepreneurship in the public sector in order to respond to the criticisms on the performance of public organizations, including the concerns facing public organizations, especially in developing countries, including Iran. Contrary to the importance of this issue, unfortunately, few researches have been conducted with a comprehensive approach in this field. Therefore, it seems that the dimensions of strategic entrepreneurship in general, and its application in public organizations in particular, are still not explained as they should be. Therefore, in this research, with an exploratory approach, the design of technological business models based on strategic entrepreneurship in public organizations has been discussed.

RESEARCH METHODS

Research Typology

The current study is an applied-developmental research that was conducted with the aim of designing a technological business model with a strategic entrepreneurship approach in public organizations. This study is based on the interpretative paradigm from a philosophical perspective and was done with an inductive approach. Also, the present research is in the category of survey-cross-sectional studies from the point of view of the time period of data collection.

Population, Sample and Sampling Method

The population of the participants of this research includes theoretical experts (entrepreneurship professors of Tehran University of Research Sciences) and experimental experts (administrators of the 5th district of Tehran). In the qualitative analysis conducted with interviews, the sample size is a function of achieving theoretical saturation. However, usually between 5 to 25 interviews have been suggested. In order to sample experts for conducting interviews, the purposeful and snowball sampling method was used, which is a non-probability method. By choosing one expert, another expert was introduced in the same field. It should be noted that, at first, interviews were conducted with university professors.

The criteria for selecting university professors is at least ten years of teaching in the field of technological business or strategic entrepreneurship or that they have scientific publications in the form of books and articles in this field. Also, in the following, the municipal managers of the 5th district of Tehran with a work experience of at least 15 years and at least a graduate degree were used. The sampling process continued until theoretical saturation was reached and 17 qualified people participated in this study. For structural-interpretive modeling, usually 10 to 25 experts participate. In this research, the perspective of the same 17 people present in the qualitative section was also used for modeling. Data collection method and tools: semi-structured interview and ISM questionnaire were used to collect research data. Because semi-structured interviews are more suitable for qualitative studies that are conducted with the purpose of exploration and pattern design. Then ISM questionnaire was used to design the research model.

Validity and Reliability of The Data Collection Tool

To measure the validity and reliability of the conducted interviews, four criteria were used Holstein's coefficient, Scott's P coefficient, Cohen's kappa index (Wang, 2011) and Kerpinderoff's alpha. The correlation level of the experts' opinion was obtained by calculating the Holstein coefficient (PAO) or "observed agreement percentage" of 0,67, which is greater than the acceptance threshold of 0,6. Since the Holsti method has flaws, the P-Scott index was also estimated, and its value was 0,65. The third index for estimating the validity of qualitative researches is the Cohen's Kappa index. Cohen's kappa index was estimated at 0,73 in this study. Finally, Kerpinderoff's alpha was used and its value was estimated at 0,79 in this study.

Data Analysis Method

In the first part, thematic analysis method was used to identify the indicators of the technological business model with a strategic entrepreneurship approach. In the second part, structural-interpretive modeling method is used. Thematic analysis was done with MaxQDA 20 software and structural-interpretive modeling was done with MicMac software.

ANALYSIS RESULTS

This study was based on the opinion of 17 people, including 6 entrepreneurship professors and 11 municipal managers, who were experts in the field of technological businesses. In terms of gender, 10 people are men and 7 people are women. In terms of age, 1 person is less than 35 years old, 3 people are between 35 and 45 years old, and 13 people are over 45 years old. In terms of education, 5 of the experts had a master's degree and 12 had a doctorate. From the point of view of work experience, 5 people had between 15 and 20 years of work experience and 12 people had more than 20 years of work experience. Folowing demographic characteristics is shown in table 1.

Table 1. Demographic Characteristics of Experts

	Category	Frequency	Percent
Expertise	Theoretical Experts (University Professors)	6	35
	Experienced Experts (Municipal Managers)	11	65
Gender	Female	7	41
	Man	10	59
Age	Less Than 35 Years	1	5
	Between 35 And 45 Years	3	18
	Over 45 Years Old	13	77
Education	Masters	5	29
	PhD	12	71
Work Experience	15 To 20 Years	5	29
	Over 20 Years Old	12	71

Identification of Technological Business Components with Strategic Entrepreneurship Approach

In order to provide a model of a technological business model with a strategic entrepreneurship approach, semi-structured specialized interviews were conducted with experts. At this stage, before starting the interview, 6 open questions have been considered, and during the interview process, it was considered that new questions will be asked. In order for the researcher to get to know the depth and scope of the content of the data, repeated re-reading of the data and active reading of the data (searching for meanings and patterns) have been done. The interview questions for designing a technological business model with a strategic entrepreneurship approach are presented in table 2.

Table 2. Semi-Structured Interview Questions of The Research

No	Questions
1	How do you evaluate the importance of technological business in public institutions, especially municipalities?
2	Which factors do you consider to have an impact on the development of technological business with a strategic entrepreneurship approach in the municipality?
3	What are the indicators of technological business development with a strategic entrepreneurship approach in the municipality?
4	In your opinion, what role does strategic entrepreneurship play in the development of technological business in the municipality?
5	In your opinion, what are the drivers of technological business in the municipality?

No	Questions
6	In your opinion, what is the relationship between technological business variables in the municipality?

The results of the interviews were conducted using the qualitative theme analysis method based on the method proposed by Attride-Stirling (2001) including basic, organizing and inclusive themes. 201 codes were identified in the open coding stage. Finally, 3 overarching themes, 8 organizing themes and 51 basic themes were obtained through axial coding. The indicators of the strategic entrepreneurship model in public organizations extracted from the interviews using qualitative thematic analysis are presented in table 3.

Table 3. Indicators of Technological Business Model with Strategic Entrepreneurship Approach

Comprehensive	Main Article	Subcategory
Strategic Factors	Strategic Entrepreneurship	Bright prospects of technological businesses
		Formulating the missions of technological businesses
		Long-term plans of technological businesses
		Short-term plans of technological businesses
		Determining the strategies of technological businesses
	Entrepreneurship Policy	Determining policies related to technological businesses
		Delineation of relevant executive processes and procedures
		Development of collaborative programs
		Providing financial resources for urban technological businesses
		Legislation and notification of laws to relevant units
Human Factors	Entrepreneurial culture	Entrepreneurship as an accepted custom in the municipality
		The atmosphere and technological atmosphere ruling the municipality
		Encouraging the culture of entrepreneurship and technology
		Technology-oriented as a belief in the municipality
		Accepted values of entrepreneurship
		Deep entrepreneurial beliefs in the municipality
	Entrepreneurial Leadership	Using a collaborative leadership style
		Ability and power of influence of city managers
		Municipal managers' support for entrepreneurship
		Risk taking of city managers
		Managers welcome entrepreneurs
		Guidance of entrepreneurs by municipal managers
	Entrepreneurial Orientation	Lack of resistance to changes
		Creating internal interest and desire for entrepreneurship

Comprehensive	Main Article	Subcategory
		The spirit of opportunism and the use of capacities
		Strengthening organizational creative resources
		Tendency and willingness to innovate
		Increasing creativity and tending to creative works
Business Related Factors	Technological Entrepreneurship	Using new technologies for entrepreneurship
		Embrace technology to respond to opportunities
		Technological entrepreneurship policies
		Hardware platforms suitable for entrepreneurship
		Software platforms suitable for entrepreneurship
		New software facilities for entrepreneurial affairs
		Movement from traditional methods to technology-oriented
	Urban Entrepreneurship	Setting up new urban businesses
		Continuous improvement of urban businesses
		Expansion of urban businesses
		Allocation of funds and credits to urban entrepreneurship
		Support for urban entrepreneurs
		Facilitating the conditions of urban businesses
	Technological Businesses	Direct municipal support for technological businesses
		Increasing the quantitative number of technological businesses
		Continuity of technology businesses
		Training and mentoring of technological businesses
		Financial support of technological businesses
		Helping to commercialize technological businesses
		Efforts in technology transfer
		Monitor new technologies and use them in business
		Using the latest technological innovations
		Application of information and communication technology in activities

Determining The Relationship Between Technological Business Components and Strategic Entrepreneurship Approach

Interpretive Structural Modeling (ISM) was used to design a technological business model with a strategic entrepreneurship approach. For this purpose, the structural self-interaction matrix (SSIM) was first formed. The relationships of comprehensive structures are characterized by four symbols V (variable i affects j), A (variable j affects i), X (two-way relationship), and O (absence of relationship). The structural autocorrelation matrix is presented in the table below.

Table 4. Structural Self-Interaction Matrix of Technological Business Structures with An Entrepreneurial Approach Strategic

SSIM	C01	C02	C03	C04	C05	C06	C07	C08
Entrepreneurial Orientation		V	X	O	X	A	A	O
Technological Entrepreneurship		A	X	O	A	A	V	
Entrepreneurship Policy				V	X	A	A	V
Urban Entrepreneurship					A	A	A	V
Entrepreneurial Culture						A	A	V
Strategic Entrepreneurship							X	V
Entrepreneurial Leadership								V
Technological Business								

By transforming the structural self-interaction matrix into a two-valued matrix of zero and one, the received matrix (ERU) is obtained. In the received matrix, the dimensions of the main diameter are equal to one. Also, secondary relationships should be checked to be sure. 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 taken into account based on secondary relationships, but this did not happen in practice, the table should be corrected and the secondary relationship should also be considered. The final access matrix is presented in the table below.

Table 5. Matrix of The Final Achievement of Technological Business Structures with An Entrepreneurial Approach Strategic

RM	C01	C02	C03	C04	C05	C06	C07	C08
Entrepreneurial Orientation (C01)	1	1	1	1*	1	0	0	1*
Technological Entrepreneurship (C02)	0	1	0	1	0	0	0	1
Entrepreneurship Policy (C03)	1	1	1	1	1	0	0	1
Urban Entrepreneurship (C04)	0	1	0	1	0	0	0	1
Entrepreneurial Culture (C05)	1	1*	1	1	1	0	0	1
Strategic Entrepreneurship (C06)	1	1	1	1	1	1	1	1
Entrepreneurial Leadership (C07)	1	1	1	1	1	1	1	1
Technological Business (C08)	0	0	0	0	0	0	0	1

After forming the achievement matrix to determine the relationships and leveling of the structures of the technological business model with the strategic entrepreneurship approach, "achievement set" and "prerequisite set" should be identified. For the C_i variable, the access set (output or effects) includes the variables that can be reached through the C_i variable. The prerequisite set (inputs or effects) includes the variables through which the variable C_i can be reached. The set of inputs and outputs to determine the level is presented in table 6.

Table 6. The Acquisition and Prerequisite Set of Technological Business Structures with An Entrepreneurial Approach Strategic

Variables	Output (Effect)	Input (Effectiveness)	Subscription
C01	C01,C02,C03,C04,C05,C08	C01,C03,C05,C06,C07	C01,C03,C05
C02	C02,C04,C08	C01,C02,C03,C04,C05,C06,C07	C02,C04
C03	C01,C02,C03,C04,C05,C08	C01,C03,C05,C06,C07	C01,C03,C05
C04	C02,C04,C08	C01,C02,C03,C04,C05,C06,C07	C02,C04
C05	C01,C02,C03,C04,C05,C08	C01,C03,C05,C06,C07	C01,C03,C05

Variables	Output (Effect)	Input (Effectiveness)	Subscription
C06	C01,C02,C03,C04,C05,C06, C07,C08	C06,C07	C06,C07
C07	C01,C02,C03,C04,C05,C06, C07,C08	C06,C07	C06,C07
C08	C08	C01,C02,C03,C04,C05,C 06,C07,C08	C08

Therefore, the technological business structure (C08) is at the first level. The constructs of technological entrepreneurship (C02) and urban entrepreneurship (C04) are at level two. The constructs of entrepreneurial orientation (C01), entrepreneurial policy (C03) and entrepreneurial culture (C05) are level three. The constructs of strategic entrepreneurship (C06) and entrepreneurial leadership (C07) are at level four. Also, the outputs and inputs of each variable show the power of influence and dependence of that variable, respectively. The strength of influence-dependence of the studied variables is presented in table 7.

Table 7. Power of Influence and Amount of Structures of Technological Business Model with Entrepreneurial Approach Strategic

Variables	Dependence	Influence	Level
Entrepreneurial Orientation (C01)	5	6	3
Technological Entrepreneurship (C02)	7	3	2
Entrepreneurship Policy (C03)	5	6	3
Urban Entrepreneurship (C04)	7	3	2
Entrepreneurial Culture (C05)	5	6	3
Strategic Entrepreneurship (C06)	2	8	4
Entrepreneurial Leadership (C07)	2	8	4
Technological Business (C08)	8	1	1

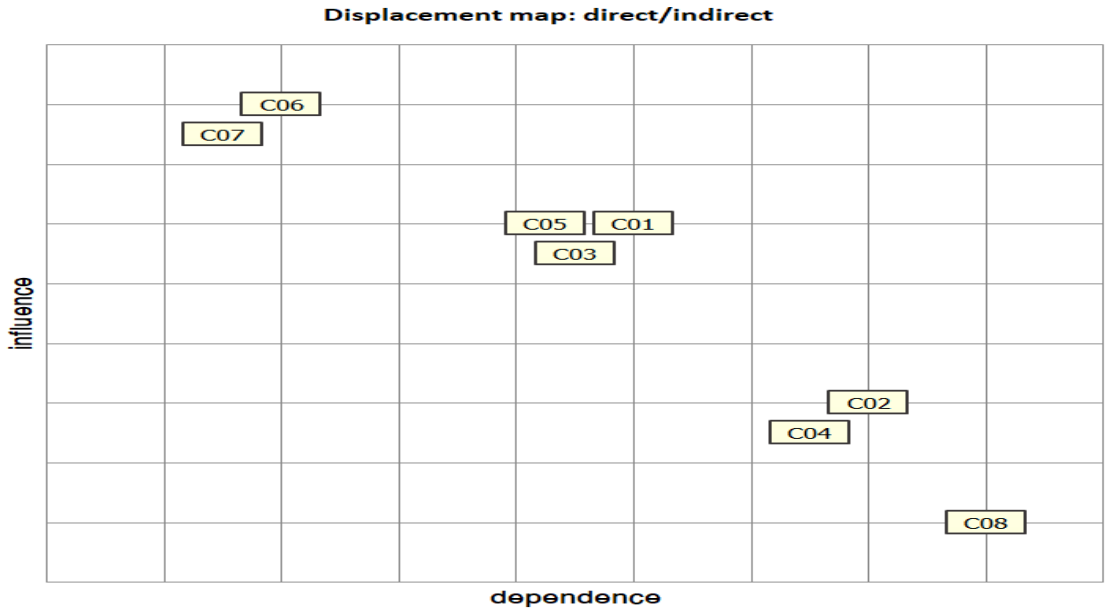

Figure 1. Influence-Dependence Diagram of Technological Business Model Structures with Strategic Entrepreneurship Approach

Based on the influence-dependence diagram (figure 1), technological business structures (C08), technological entrepreneurship (C02) and urban entrepreneurship (C04) are located in the area of dependent structures. The constructs of entrepreneurial orientation (C01), entrepreneurial policy (C03) and entrepreneurial culture (C05) have similar influence and dependence and are in the area of linked constructs. The constructs of strategic entrepreneurship (C06) and entrepreneurial leadership (C07) are therefore independent constructs. After determining the relationships and level of the mentioned indicators, they can be designed as a model. For this purpose, the indicators are first adjusted according to their level from top to bottom. The technological business model with strategic entrepreneurship approach is shown in (figure 2).

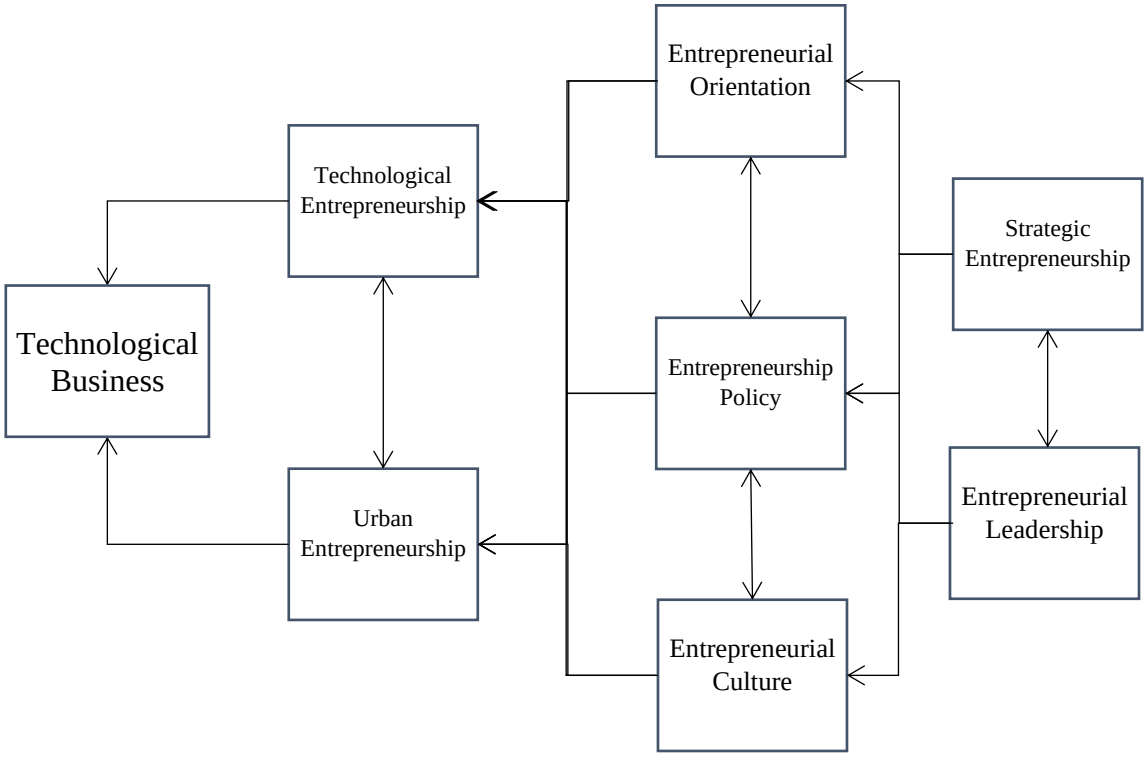

Figure 2. Technological Business Model with Strategic Entrepreneurship Approach

Finally, based on the drawn model (figure 2), strategic entrepreneurship and entrepreneurial leadership have an impact on entrepreneurial orientation, entrepreneurial policy and entrepreneurial culture. These factors also affect technological entrepreneurship and urban entrepreneurship. Finally, technological entrepreneurship and urban entrepreneurship lead to technological business.

Discussion & Conclusion

The current research was conducted with the aim of designing a technological business model with a strategic entrepreneurship approach in public organizations (case study: Tehran Municipality). Based on the results, it was determined that the components of strategic entrepreneurship and entrepreneurial leadership have an impact on entrepreneurial orientation, entrepreneurial policy and entrepreneurial culture. In the results of the studies of (Talebi, Davari and Taghavi, 2014; Binsawad, Sohaib and Hawryszkiewycz, 2018) The results of the research showed that the mentioned factors affect technological entrepreneurship and urban

entrepreneurship. In the results of the study of Pereira *et al.* (2022) the importance of technological entrepreneurship was also pointed out and finally it was determined that technological entrepreneurship and urban entrepreneurship lead to technological business. Based on the research results, the following practical suggestions are provided:

1. In terms of strategic entrepreneurship, it is suggested to create clear visions of technological businesses, and to develop relevant missions. In this regard, developing long-term and short-term plans for technological businesses will facilitate the creation of technological businesses. Also, determining the strategies of technological businesses also plays an important role in its formation.
2. Regarding the entrepreneurship policy, it is suggested to determine the policies related to technological businesses, to outline the related trends and executive procedures. Relevant managers can prepare the preparations for the creation of technological businesses by formulating cooperative plans and providing financial resources for urban technological businesses. Also, the role of legislation and notification of laws to relevant units is also important in this area.
3. Regarding the entrepreneurial culture, it is suggested to improve the technological atmosphere of the municipality by dealing with entrepreneurship as an accepted custom in the municipality. Creating a technological business can be achieved by encouraging the culture of entrepreneurship and technology, and technology-oriented should be established as a belief in the municipality. With the help of the accepted values of entrepreneurship and having deep entrepreneurial beliefs in the municipality, managers and relevant employees can help to create a technological business.
4. Regarding entrepreneurial leadership, it is suggested to create a technological business by using the collaborative leadership style and increasing the ability and power of influence of city managers. In this regard, the support of municipal managers for their entrepreneurship and risk-taking is important. Also, if the managers welcome the entrepreneurs and guide them by the municipal managers, it will be possible to overcome the existing environmental challenges.
5. Regarding the entrepreneurial tendency, it is suggested to help achieve technological business goals by not resisting changes and creating an inner interest and desire for entrepreneurship. In this regard, having an opportunistic spirit and using the capacities is very important and strengthening the creative resources of the organization should be at the top of things. Also, by hiring people with a tendency and desire to innovate, it is possible to increase the amount of creativity and tendency to creative works in the municipality.
6. In terms of technological entrepreneurship, it is suggested to prepare for the creation of technological business by using new technologies for entrepreneurship and embracing technology to respond to opportunities. It is important to formulate technological entrepreneurship policies and provide suitable hardware and software platforms for entrepreneurship in this field. Also, the provision of new software facilities for entrepreneurial affairs will also lead to a move from traditional methods to technology-oriented ones.
7. Regarding urban entrepreneurship, it is suggested to help the continuous improvement of urban businesses by starting new urban businesses. Creating a technological business can be achieved by expanding urban businesses and allocating funds and credits to urban entrepreneurship. Also, in this field, it is necessary to support urban entrepreneurs and facilitate the conditions of urban businesses.

Finally, by implementing the aforementioned strategies, achieving the goals of technological businesses, such as direct municipal support for technological businesses, increasing the number of technological businesses, continuing the activity of technological

businesses, training and mentoring technological businesses, financial support for technological businesses, helping to commercialize technological businesses, Efforts in technology transfer, monitoring new technologies and using them in business, using the latest technological innovations and applying information and communication technology in activities will not be far from expected.

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