

Designing the Organizational Learning Capacity Development Model with an Entrepreneur University Approach

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Purpose: The success of universities depends on their ability to respond and adapt to environmental changes and developments. Therefore, the purpose of this study was designing the organizational learning capacity development model with an entrepreneur university approach.

Methodology: In a qualitative study on 24 experts familiar with the field of research and relevant documents in this field, the organizational learning capacity development model with an entrepreneur university approach was investigated. The experts of the current research were selected by purposeful and snowball sampling methods and were underwent to three rounds of Delphi. The data were collected by taking notes from the documents and checking the level of agreement of the experts and were analyzed by coding methods and the percentage of agreement with the Delphi method.

Findings: The findings of coding indicated that the organizational learning capacity development model with an entrepreneur university approach had 81 components in 21 dimensions. The results showed that in the first round of Delphi 3 components, in the second round of Delphi 4 components and in the third round of Delphi 2 components were removed, and finally, for the organizational learning capacity development model with an entrepreneur university approach were identified 72 components in 21 dimensions with an agreement percentage of higher than 70% for all components.

Conclusion: The results of this study help to better understand the methods of organizational learning capacity development with an entrepreneur university approach. Therefore, universal specialists and planners in order to improve organizational learning capacity can provide the basis for improving the identified dimensions and components in the current research.

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1. Introduction

In recent years, the role of universities has significantly evolved to align with the changing and developing conditions of society, sometimes referred to as entrepreneurial universities (Gilmore, McAuley, Miles & Pattinson, 2020). Universities are critical centers for developing and training skilled and specialized human resources and are essential for the industrial development of any country, requiring a workforce with a diverse set of knowledge and skills (Wakkee, van der Sijde, Vaupell & Ghuman, 2019). University entrepreneurship and entrepreneurial universities are rapidly growing and evolving, and globalization is imposing significant pressures on developing countries to produce competitive goods and services more than ever (Starostina, Bugrov, Kravchenko, Gatto & Kochkina, 2023). There is a distinction between an entrepreneurial university and university entrepreneurship. An entrepreneurial university is a social system where internal organizational units, including academic groups, research centers, faculty members, and colleges, strive to meet the real market and economic, social, and cultural environment needs. They not only innovate but continuously make fundamental changes in their functioning. In contrast, university entrepreneurship refers to the development of innovation in activities and interaction of university elements, aiming to achieve an entrepreneurial university, leading to the redefinition of teaching functions, service delivery, transformation in managing the university's intellectual assets, characteristics of graduates, and technology transfer through the establishment of technology-oriented companies and close collaboration between the university and industry (Bukhari, Dabic, Shifrer, Daim & Meissner, 2021). Entrepreneurs are the driving force behind society's economic growth and pioneers of change and transformation in the economy and society, making entrepreneurship a significant concern of various academic institutions and centers in today's world (Guerrero, Cunningham & Urbano, 2015). An entrepreneur is someone committed to organizing, managing, directing, and assuming the risks of an economic activity. Alternatively, entrepreneurship can be seen as the process of optimally combining available resources to create value (Laguia, Moriano & Gorgievski, 2019). The entrepreneurial university, as the third generation of universities following educational and research universities, has the mission of economic and social development. Therefore, understanding and awareness of it and offering strategies for its realization are of great importance (Fuster, Padilla-Melendez, Lockett & Del-Aguila-Obra, 2019). The emergence of the entrepreneurial university is a response to the increasing importance of knowledge in national and regional systems and innovation and a new understanding of the university; an institution that acts as a knowledge and technology transfer agent and a source of creative invention, which is economically efficient (Dabic, Gonzalez-Loureiro & Daim, 2015). An entrepreneurial university is a self-generating institution that strives to acquire resources in the transition from a donation-based organization dependent on other institutions, enhancing its position, legislation, and access to public resources, where knowledge becomes an economic good and service (Sidrat & Frikha, 2018). The term "entrepreneurial university" was coined by Etzkowitz in 1983 to describe universities that used various academic mechanisms to participate in regional development and increase revenues. For this purpose, the university must adopt an entrepreneurial management style, its members must act entrepreneurially, and follow an entrepreneurial model for interaction with their environment (Sanchez-Barrioluengo & Benneworth, 2019). An entrepreneurial university actively endeavors to innovate regarding businesses and strives to play an effective role in shaping the future of society. Moreover, it can be considered an innovative, risk-taking institution nurturing entrepreneurial behaviors (Muscio & Ramaciotti, 2019). The journey to becoming an entrepreneurial university is relatively long and challenging, with the first step being finding a strategic vision and prioritizing the university through dialogue with university resource providers. The second step is to play an active role in commercializing the intellectual property of board members, staff, and students. The third step is to play an active role in improving the efficiency of the regional innovation environment through collaboration with industry stakeholders and government participation (Mortezaei, Salehi & Niazazari, 2018). In an entrepreneurial university, new jobs are created, entrepreneurial individuals are supported, communication among individuals and groups is open, horizontal, public, and usually informal, new and creative ideas are welcomed, meetings are held for information exchange and activities,

there is access to the job market and the use of various experiences, and students compete healthily to explore the unknown and enhance their practical and technical skills (Calvo, Rodeiro-Pazos, Rodriguez-Gulias & Fernandez-Lopez, 2019).

One of the important factors to consider based on the entrepreneurial university approach is the development of organizational learning capacity. Organizational learning capacity refers to an organization's ability to implement managerial actions, structures, policies, and procedures that facilitate and develop learning. This ability leads to the process of organizational learning, where organizations create such capacity by establishing factors that facilitate organizational learning processes or by allowing the organization to be a learner (Lyman, Prothero & Parchment, 2023). Learning is an important factor in the organization because it leads to the creation and development of a sustainable competitive advantage. In fact, learning can act as a tool to create and develop a wide range of organizational capacities (Deperi, Bertrand, Meschi & Nesta, 2022). Organizational learning is any change in organizational models that leads to improved or maintained organizational performance. Thus, this construct refers to improving organizational efficiency through the application of the workforce's extensive skills (Agyabeng-Mensah, Tang, Afum, Baah & Dacosta, 2021). This construct is defined as all interpretive and structural dimensions of the system for creating, acquiring, transferring, integrating knowledge, and modifying organizational behavior to reflect the new situation with a view to improving organizational performance (Rass, Treur, Kucharska & Wiewiora, 2023). Organizational learning is a continuous, dynamic, and interactive process among individuals, groups, and organizations that represents a company's effort to use intellectual and social capital of individuals to understand the company's potential for innovation, presenting products and services, creating markets and new technologies, and the company's ability to adapt and change in response to new market demands (Ghahremanpour, Zonoozi & Abolfazli, 2020).

Organizational learning is an area of knowledge in organizational theory, where educational models and theories related to learning methods and adaptation are integrated, and this concept is defined as a collective capacity based on cognitive and experiential processes, including acquiring, sharing, and optimizing knowledge (Salouki, Ghorbani, Zabihi & Niroumand, 2020). This construct is not a static state or limited goal but a continuous process of adaptation to environmental conditions and evolution, where groups and individuals within the organization are encouraged to develop skills and consensus on the organization's destination (Basic, 2021). Organizational learning capacity goes beyond organizational learning and represents the organization's capacity to develop abilities to acquire new information and transform that information into knowledge, requiring the capacity to create and generalize ideas effectively to address various organizational boundaries through specific initiatives and management actions (Esmaeilzadeh, Irannezhad, Jahanian & Ghasemzadeh, 2021). Creating continuous learning opportunities, inquiry and dialogue, encouraging a sense of collaboration and group learning, empowering employees towards a shared vision, establishing a system for creating and sharing learning, connecting the organization with its environment, and strategic leadership are characteristics of a learning organization that is continuously learning and changing itself (Bouma, Canbaloglu, Treur & Wiewiora, 2023). Organizational learning capacity must be capable of creating, acquiring, transferring, and integrating knowledge so that the organization can quickly adapt to the changing and evolving conditions of society (Comlek, Kitapci, Celik & Ozsahin, 2012). This capacity indicates the ability to create and generalize ideas effectively in dealing with various organizational boundaries through specific initiatives and management methods, requiring a set of prominent competencies that distinguish the organization from competitors as specific knowledge with the application of technological skills and processes (Cinar & Eren, 2015).

Chavoshi and Khashei (2022), in their research titled "The Impact of Organizational Learning Mechanisms on Strategic Innovation Capacity," reported that factors affecting organizational learning included the detection mechanism (with components such as non-customers, end customers, other industries, innovative customers, environmental information, customer needs, industry trends, and future customer needs), the adaptation mechanism (with components such as critical customer feedback, critical market feedback, critical marketing

feedback, feedback sharing, experience from past feedback, and feedback archiving), and the exploitation mechanism (with components such as structural adaptability, support for innovators, production adaptability, skill substitution, method change, and prevention of chaos). They found that organizational learning has a direct and significant effect on strategic innovation capacity.

Moafimadani, Kazempour, Khalkhali, and Rahimaghaee (2020) in their research titled "Designing a Model for Organizational Learning Management of Nurses," reported that they identified 142 open codes, 8 axial codes, and 3 selective codes including individual (with two axial codes of developing learners' individual capabilities and strengthening learning motivation), contextual (with three axial codes of developing a participative culture, achieving justice-orientedness, and developing systemic thinking among managers), and structural (with three axial codes of developing learning, continuous monitoring commitment by managers, and enhancing planners' efficiency).

Khakrah, Malekian, Saeidipour, and Kavyani (2019) in their research titled "Designing a Model of Organizational Factors Affecting Learning Transfer to the Workplace Based on Grounded Theory," reported that causal conditions included organizational structure, organizational capabilities, and financial and physical resources. The central phenomenon included organizational support, managerial competencies, and learning transfer environment. Contextual conditions included a culture of knowledge sharing, excellence-oriented culture, and openness culture. Intervening conditions included organizational policies and laws, the organizational position of training, and job characteristics. Strategies included developing organizational learning culture, institutionalizing experience and expertise in the organization, career path management, performance management, reviewing and refining rules and regulations, creating application opportunities, enhancing scientific interactions, and enhancing the training unit's position. The consequences included reducing job burnout, developing capabilities and creativity of employees, increasing the effectiveness of organizational training, and increasing organizational success.

Lyman, Cowan, and Hoyt (2017), in their research titled "Organizational Learning in a Nursing College: A Learning History," reported that they identified four criteria: characteristic and quality, long-term perspective, collaborative leadership, and consultation, which play a significant role in improving organizational learning.

Omranzadeh, Khoshchereh, Monavarian, and Alaei (2017), in their research titled "Explaining the Model of Organizational Learning in the Employees of the National Petrochemical Company," reported that the model included causal conditions like individual skills, mental models, and communications. The main category was the desire to strengthen corporate learning. Interveners included awareness, delegation of authority, and shared vision. Contexts included corporate factors, economic factors, cultural factors, and structural factors. Strategies included performance evaluation, intellectual capital management, corporate linkages, team learning, and systemic thinking. The consequences included knowledge enhancement, environmental adaptation, social learning, and group experience accumulation.

In Iran, most universities are in the first and second generations, i.e., educational and research, and there is not much activity towards commercializing research findings, training entrepreneurial individuals, and transitioning to the third generation of universities, the entrepreneurial university (Behzadi, Razavi & Hosseini, 2015). Traditional universities limit themselves to collecting, producing, and transferring knowledge to other members of the academic community or other organizations within the framework of laws and regulations, but entrepreneurial universities are often involved in creating and transferring new knowledge alongside traditional knowledge. Many university graduates, due to the lack of necessary technical and entrepreneurial skills in the job market, are often unsuccessful and remain unemployed. Therefore, organizational learning capacity for training and empowering employees in line with promoting entrepreneurship and acquiring necessary skills will always be essential. Thus, this research aims to answer how a model can be designed to develop organizational learning capacity with an entrepreneurial university approach?

2. Methodology

In a qualitative study on 24 experts familiar with the research domain and related documents, a model for developing organizational learning capacity with an entrepreneurial university approach was examined. These experts were selected through purposive and snowball sampling methods. In purposive sampling, experts were chosen based on criteria such as expertise in management and organizational learning, holding a master's or doctoral degree in management, and having more than 10 years of work experience. In snowball sampling, participants from the purposive sample were asked to introduce other experts meeting the above criteria to the researcher. The frequency and percentage of demographic information of the experts were reported in Table 1.

Table 1. Demographic Characteristics of Participants

Variable	Value	Frequency	Percentage (%)
Gender	Female	5	20.83
	Male	19	79.17
Education	M.A	7	29.17
	PhD	17	70.83
Position	Professor	16	66.67
	Manager	8	33.33
Work Experience (Year)	11-15	10	41.67
	>15	14	58.33
Age (Year)	31-40	11	45.83
	>40	13	54.17

In addition to the experts who underwent three rounds of Delphi, documents related to the current research domain were used, and the results of the dimensions, components, and researchers were reported in Table 2.

Table 2. Results of Dimensions, Components, and Past Researchers Regarding the Development of Organizational Learning Capacity with an Entrepreneurial University Approach

Dimensions	Components	Researchers
Systemic Orientation	(Clear and specific definition of organizational processes), (Proper understanding of organizational processes as a whole), (Recognition of the interrelationship between components of organizational processes), (Relatedness and dependency of organizational processes)	Gammes (2005), Nels & Worley (2010), Candimer & Holt (2004), Philpat (2006)
Space for Learning	(Learning as a fundamental value for any change in the organization), (Learning capacities as the key to survival and advancement of the organization), (Learning as an investment, not a cost), (Continuous training and learning as a permanent policy of the organization), (Promotion and encouragement based on individual knowledge in the organization)	Gammes (2005), Petricka (2008), Guererr & Colleagues (2006), Guerrero & Urbano (2012)
Acquisition and Benefit from Knowledge	(Organizational readiness to accept and employ new technologies and methods), (Employing special mechanisms for research in technology related to organizational performance), (Continuous review and assessment of the impact of new technologies on organizational activities), (Ongoing examination of technological trends related to the field of organizational performance), (Efforts to produce and disseminate knowledge in the organization)	Etzkowitz (2004), Gammes (2005), Philpat (2006)
Sharing and Distribution of Information	(Enthusiasm of organizational members in providing useful information for better organizational decision-making), (Exchange and benefit from valuable knowledge and insights throughout the	Gammes (2005), Marcoart (2002), Cho (1998), Enayati & Davoudi (2015)

	organization as a fundamental policy), (Rapid dissemination of information by organizational members upon discovering new methods and techniques), (Existence of special mechanisms for information sharing to increase the organization's competitive power), (Existence of organizational dialogues and negotiations among members for exchanging ideas and learning from past experiences)	
Learning Conditions	(Internal and external knowledge sources), (Focus on product and development and manufacturing process), (Documentation conditions of knowledge), (Formal and informal publication conditions), (Focus on corrective and transformative learning), (Value chain focus on design, manufacturing, and sales), (Focus on developing individual and group capabilities)	Petricka (2008), Sekond & Elia (2014), Cho (1998)
Emphasis on Measurement	(Significant efforts on conceptualization), (Measuring key factors in time), (Risk of entering new areas), (Efforts towards measurement), (Discussion on active learning units)	Chiwa (2004), Teo & Wang (2006), Enayati & Davoudi (2015)
Access to Experimental Spirit	(Support for experimenting with new things), (Curiosity about how things work), (Acceptance of failure and non-punishment), (Recognition that changes in work processes, policies, and structures are all learning opportunities)	Marcoart (2002), Mashayekhi (2009)
Creating an Open Environment	(Access to information), (Free communication within the organization), (Transferring problems.errors.lessons to others and not hiding them), (Recognizing that doubt is the way to problem-solving)	David Kirby (2006), Gammes (2005), Petricka (2008), Guererr & Colleagues (2006), Guerrero & Urbano (2012)
Engagement of Leadership	(Leaders who articulate the vision and are involved in its implementation), (Leaders constantly interacting with employees), (Leaders actively involved in training programs)	Karimi Sureh & Colleagues (2011), Aranha & Garcia (2016), Thomas (1996), Denton (1998)
Necessity Assessment	(Gathering information about conditions and performances outside the unit), (Awareness of the environment), (Curiosity about the external environment versus the internal environment)	Thomas (1996), Aydin & Silan (2009), Chiwa (2004)
Performance Discrepancy	(Shared understanding of the difference between desired and actual performance), (Viewing small performance drops as learning opportunities)	Sekond & Elia (2014)
Continuous Training	(Continuous and increasing commitment to training at all organizational levels), (Explicit support for individual advancement)	Kreitner & Kinicki (2007)
Operational Diversity	(Diversity of methods, procedures, and systems), (Collective conceptualization of value-creating capabilities over individual)	Kreitner & Kinicki (2007)
Systemic Perspective	(Internal dependency of organizational departments), (Viewing problems and solutions as systematic connections of processes)	Sekond & Elia (2014)
Multiple Advocates	(Development of new ideas and methods by employees at all levels), (Learning for employees beyond just competition)	Philpat (2006), Sekond & Elia (2014)
Strong Leadership Core	(Delegating decision-making power), (Having strategic planning), (Ability to attract faculty participation), (Risk-taking ability), (Idea generation capability)	Aydin & Silan (2009), Chiwa (2004), Yildirim & Big Askon (2012), Clark (1998)
Development of Organizational Environment	(Extensive interaction with industry and other universities), (Establishing science and technology parks), (Joint research with industries and other companies), (Establishing an entrepreneurial university center)	Karimi Sureh & Colleagues (2011), Aranha & Garcia (2016), Wood (2011), Yildirim & Big Askon (2012), Clark (1998)
Financial Resource Diversification	(Contracts with industrial firms and companies), (Support from government companies and contracts with government organizations), (Attracting international students)	Yildirim & Big Askon (2012), Clark (1998), Wood (2011), Aranha & Garcia (2016)
Strong Technical Core	(Faculty members' skills in teaching, research, and education), (Decision-making power in educational and research activities),	Yildirim & Big Askon (2012), Clark (1998),

	(Capable faculty in technology transfer and knowledge exchange between university and industry)	Chiwa (2004), Gammes (2005)
Entrepreneurial Culture	(Expanding research and study culture), (Welcoming connections with the environment and commercialization of knowledge), (Support for the growth of talented, creative, and entrepreneurial individuals), (Support for new ideas), (Support for entrepreneurial behaviors)	Sporn (2001), Nels & Worley (2010), Wood (2011), Sekond & Elia (2014), Yildirim & Big Askon (2012), Clark (1998), Karimi Sureh & Colleagues (2011)
Commercialization Process	(University commercialization strategy), (Innovative commercialization units), (Technology transfer offices), (Intellectual property), (Laws and regulations), (Consulting and scientific support)	Chiwa (2004), Etkowitz & Colleagues (2005), Salam Zadeh & Colleagues (2011)

In this study, data were collected through note-taking from documents and examining the experts' level of agreement. Therefore, the research process consisted of two stages. In the first stage, the synthesis method was used to design the model, using findings from documents and previous studies selected through purposive sampling. The proposed dimensions included 125 components in 25 dimensions, which were reduced to 81 components in 21 dimensions in the synthesis stage. In the second stage, dimensions and components were sent to 24 experts, who were asked to declare their level of agreement, a process that took three rounds. In other words, the experts underwent three rounds of Delphi to achieve an acceptable model. It is worth noting that the reliability of the 81 components was obtained using Cronbach's alpha method as 0.805. In this study, data were analyzed using coding methods and the percentage of agreement with the Delphi method.

3. Findings

In this study, 24 experts underwent three rounds of the Delphi method. The results of their average agreement percentage on the components of the model for developing organizational learning capacity with an entrepreneurial university approach were reported in Table 3.

Table 3. Results of Average Agreement Percentage on the Components of the Model for Developing Organizational Learning Capacity with an Entrepreneurial University Approach

Dimensions	Components	Mean (First session)	Percentage (First session)	Mean (Second session)	Percentage (Second session)	Mean (Third session)	Percentage (Third session)
Systemic Orientation	Clear and specific definition of organizational processes	28.3	86	29.3	87	3.3	87
	Proper understanding of organizational processes as a whole	86.2	79	34.2	63	*	*
	Recognizing the interrelationship between components of organizational processes	11.3	83	16.3	87	17.3	87
	Relatedness and dependency of organizational processes	99.2	81	99.2	82	3	83
Space for Learning	Learning as a fundamental value for any change in the organization	13.3	85	16.3	879	17.3	83
	Learning capacities as the key to survival and advancement of the organization	39.2	65	*	*	*	*
	Learning as an investment, not a cost	8.2	76	68.2	75	69.2	74

	Continuous training and learning as a permanent policy of the organization	18.3	84	12.3	85	22.3	85
	Promotion and encouragement based on individual knowledge in the organization	87.2	76	86.2	77	87.2	77
Acquisition and Benefit from Knowledge	Organizational readiness to accept and employ new technologies and methods	89.2	79	67.2	72	69.2	73
	Employing special mechanisms for research in technology related to organizational performance	8.2	77	74.2	74	75.2	75
	Continuous review and assessment of the impact of new technologies on organizational activities	48.3	90	49.3	88	47.3	89
	Ongoing examination of technological trends related to the field of organizational performance	75.2	76	69.2	73	71.2	74
	Efforts to generate and disseminate knowledge within the organization	79.2	77	76.2	72	8.2	73
	Organizational members' enthusiasm in providing useful information for better organizational decision-making	7.2	75	77.2	75	78.2	74
Sharing and Distribution of Information	Exchanging and benefiting from valuable knowledge and insights throughout the organization as a fundamental policy	76.2	76	84.2	76	36.2	64
	Rapid dissemination of information by organizational members upon discovering new methods and techniques	3.3	87	37.3	89	38.3	89
	Existence of special mechanisms for information sharing to increase the organization's competitive advantage	05.3	82	04.3	82	15.3	83
	Organizational dialogues and negotiations among members for exchanging ideas and learning from past experiences	14.3	84	17.3	84	18.3	84
Learning Conditions	Internal and external knowledge sources	9.2	79	84.2	76	85.2	77
	Focus on product and development and manufacturing process	89.2	79	77.2	75	78.2	75
	Documentation conditions of knowledge	05.3	82	07.3	83	08.3	83

	Formal and informal publication conditions	95.2	80	97.2	82	98.2	82
	Focus on corrective and transformative learning	46.2	68	*	*	*	*
	Value chain focus on design, manufacturing, and sales	19.3	85	12.3	83	18.3	84
	Focus on developing individual and group capabilities	1.3	83	17.3	85	18.3	85
Emphasis on Measurement	Significant efforts on conceptualization	79.2	77	8.2	78	81.2	78
	Measuring key factors in time	96.2	81	98.2	81	99.2	80
	Risk of entering new areas	87.2	78	43.2	68	*	*
	Efforts towards measurement	84.2	78	76.2	73	77.2	73
	Discussion on active learning units	74.2	76	7.2	75	71.2	75
Access to Experimental Spirit	Support for experimenting with new things	75.2	76	74.2	76	78.2	78
	Curiosity about how things work	79.2	77	8.2	76	82.2	77
	Acceptance of failure and non-punishment	75.2	76	67.2	77	78.2	78
	Recognition that changes in work processes, policies, and structures are all learning opportunities	15.3	83	2.3	83	27.3	84
Creating an Open Environment	Access to information	18.3	86	16.3	87	22.3	87
	Free communication within the organization	79.2	77	75.2	75	78.2	77
	Transferring problems/errors/lessons to others and not hiding them	05.3	82	12.3	81	13.3	80
	Recognizing that doubt is the way to problem-solving	18.3	84	26.3	85	29.3	86
Engagement of Leadership	Leaders who articulate the vision and are involved in its implementation	28.3	86	36.3	87	37.3	87
	Leaders constantly interacting with employees	9.2	74	77.2	72	8.2	76
	Leaders actively involved in training programs	3	81	3	83	98.2	84
Necessity Assessment	Gathering information about conditions and performances outside the unit	51.3	90	53.3	91	57.3	91
	Awareness of the environment	89.2	79	97.2	80	98.2	80
	Curiosity about the external environment versus the internal environment	95.2	80	87.2	79	88.2	79
Performance Discrepancy	Shared understanding of the difference between desired and actual performance	89.2	79	84.2	75	85.2	76
	Viewing small performance drops as learning opportunities	95.2	80	97.2	81	98.2	81

Continuous Training	Continuous and increasing commitment to training at all organizational levels	33.3	87	26.3	87	27.3	87
	Explicit support for individual advancement	85.2	78	87.2	79	88.2	79
Operational Diversity	Diversity of methods, procedures, and systems	14.3	85	16.3	86	17.3	86
	Collective conceptualization of value-creating capabilities over individual	05.3	82	14.3	83	18.3	85
Systemic Perspective	Internal dependency of organizational departments	28.3	86	29.3	87	3.3	87
	Viewing problems and solutions as systematic connections of processes	75.2	76	77.2	84	78.2	84
Multiple Advocates	Development of new ideas and methods by employees at all levels	98.2	81	87.2	81	88.2	81
	Learning for employees beyond just competition	41.3	89	43.3	90	44.3	90
Strong Leadership Core	Delegating decision-making power	92.2	79	38.2	66	*	*
	Having strategic planning	18.3	85	23.3	86	24.3	86
	Ability to attract faculty participation	84.2	78	85.2	79	88.2	80
	Risk-taking ability	38.3	88	41.3	90	42.3	90
	Idea generation capability	38.3	89	39.3	89	4.3	89
Development of Organizational Environment	Extensive interaction with industry and other universities	09.3	83	17.3	84	18.3	84
	Establishing science and technology parks	48.3	90	46.3	89	47.3	89
	Joint research with industries and other companies	79.2	76	71.2	72	31.2	63
	Establishing an entrepreneurial university center	43.3	87	46.3	89	47.3	89
Financial Resource Diversification	Contracts with industrial firms and companies	94.2	80	97.2	80	98.2	81
	Support from government companies and contracts with government organizations	85.2	78	8.2	75	81.2	75
	Attracting international students	38.3	87	39.3	88	42.3	89
Strong Technical Core	Faculty members' skills in teaching, research, and education	75.2	76	78.2	75	8.2	76
	Decision-making power in educational and research activities	28.3	86	29.3	87	3.3	87
	Capable faculty in technology transfer and knowledge exchange between university and industry	23.3	85	26.3	85	37.3	88

Entrepreneurial Culture	Expanding research and study culture	48.3	90	51.3	92	54.3	92
	Welcoming connections with the environment and commercialization of knowledge	74.2	76	77.2	84	78.2	84
	Support for the growth of talented, creative, and entrepreneurial individuals	33.3	87	36.3	88	37.3	89
	Support for new ideas	28.2	63	*	*	*	*
	Support for entrepreneurial behaviors	38.3	89	46.3	91	5.3	91
Commercialization Process	University commercialization strategy	55.3	90	56.3	91	57.3	92
	Innovative commercialization units	94.2	80	89.2	80	88.2	79
	Technology transfer offices	51.3	89	51.3	89	54.3	90
	Intellectual property	44.3	89	43.3	90	47.3	91
	Laws and regulations	94.2	80	87.2	75	83.2	76
	Consulting and scientific support	92.2	81	46.2	69	*	*

The reported findings in Table 3 indicated that the initial model for developing organizational learning capacity with an entrepreneurial university approach had 81 components in 21 dimensions. Further results showed that in the first round of Delphi, 3 components were eliminated, 4 components in the second round, and 2 components in the third round. Ultimately, 72 components in 21 dimensions with an agreement percentage above 70% for all components were identified for the model to develop organizational learning capacity with an entrepreneurial university approach.

4. Conclusion

Considering the importance of developing organizational learning capacity and the fact that universities' success depends on their ability to respond and adapt to environmental changes and transformations, the aim of this study was to design a model for developing organizational learning capacity with an entrepreneurial university approach.

The findings of this study indicated that the model for developing organizational learning capacity with an entrepreneurial university approach had 81 components in 21 dimensions. These dimensions included systemic orientation, space for learning, acquisition and benefit from knowledge, sharing and distribution of information, learning conditions, emphasis on measurement, access to experimental spirit, creating an open environment, engagement of leadership, necessity assessment, performance discrepancy, continuous training, operational diversity, systemic perspective, multiple advocates, strong leadership core, development of organizational environment, diversification of financial resources, strong technical core, entrepreneurial culture, and commercialization process. Results showed that in the first round of Delphi, 3 components were eliminated, in the second round, 4 components, and in the third round, 2 components, resulting in a final identification of 72 components in 21 dimensions with a consensus rate of over 70% for all components. These findings are in line with those of Chavoshi and Khashei (2022), Moafimadani et al. (2020), Khakrah et al. (2019), Lyman et al. (2017), and Omranzadeh et al. (2017).

Based on the findings of the current research, it can be inferred that what has been focused on in Iranian universities so far has been education, hence insufficient attention has been paid to research and scientific investigations, and more importantly, our students are generally unfamiliar with entrepreneurship because adequate physical infrastructure for the development of entrepreneurship has not been provided. Therefore,

the problem of unemployment among university graduates has become a social dilemma, providing the ground for brain drain and various fictitious jobs. It is evident that the advancements of the present age in various fields, rooted in science and information technology, have provided very good opportunities for commercial investment. The higher education system of the country, as one of the two poles of education, is responsible for training and educating specialized and efficient human resources needed by society at various levels and fields. The absorption of university graduates and higher education centers in the job market depends on having capabilities and characteristics, some of which should be developed during university education. Factors such as the mismatch between educational content and job skills, the failure of universities in strengthening the scientific spirit and service motivation in students, the unclear minimum scientific and practical capabilities for graduation, the faculty's unfamiliarity with the process and how to conduct affairs in production and service units related to graduates' fields of study, the lack of a suitable environment for practical training, the absence of scientific and research issues, especially entrepreneurship, as a priority in universities, are the most important factors for the failure of graduates in job finding. Therefore, since today concepts such as globalization, commercialization of university ideas, and academic entrepreneurship have entered the higher education system and, on the other hand, challenges such as an increase in applicants for postgraduate studies, the inability of the public sector to create employment, resulting in unemployment of graduates and a decrease in government budgets, not using the scientific ideas of professors, employees, and students, and dissatisfaction with its human resources, it seems that if individuals can continuously engage in developing organizational learning capacity and innovation, either individually or in groups, to acquire, apply, and become entrepreneurs, the prospect of growth in the university is not far-fetched and employment opportunities can be provided after graduation.

Due to the vital and undeniable role of developing organizational learning capacity in universities, this construct is of great importance for the success and expansion of the entrepreneurial university. Traditional universities in the country, with their current culture and structures, lack the ability to survive, develop, and especially compete in domestic and international arenas, and will not be able to meet the needs of society and stakeholders. Since the future success of universities depends on their ability to respond to changes and transformations, it is necessary for university leaders and policymakers to create deep and extensive changes in their missions and goals and manage and administer the university in completely new and different ways. Therefore, the following suggestions are offered for the development of organizational learning capacity with an entrepreneurial university approach.

- The university should strive to design and formulate the training and learning of its staff as a fundamental policy and continuously and periodically hold in-service classes, etc., to increase their organizational learning power.
- Retraining and improving the teaching skills of faculty members to enhance entrepreneurship
- Designing university programs based on market needs assessment, companies, and industries, which will enable the university to establish a proper connection with society.
- The organization should seriously focus on institutionalizing organizational learning culture by creating a positive and suitable environment for its members.
- Creating, strengthening, integrating, and updating the management information system at all levels of the university
- Flexibility in the university structure through the free exchange of information and ideas
- Cultivating and encouraging the prioritization of educational and entrepreneurial activities for all managers at different levels of the university, faculties, and educational groups in a practical and applied manner
- Establishing connections between pre-growth centers, growth centers, science and technology parks, and ultimately establishing career counseling centers at the university

- Networking and establishing a proper systemic link between the entrepreneurial structures of the university and the industry of the province
- Increased movement of industry and university liaison offices in timely informing researchers of industry needs, attracting credits, and supporting faculty members and students
- Facilitating and strengthening personal connections of faculty members with industries and society
- Delegating entrepreneurial institutions and structures to faculty members
- Changing the attitudes of managers and faculty members towards entrepreneurship
- Diagnosing the state of organizational learning capacity and entrepreneurial university in universities

Ethical Considerations

In the current research, the importance and necessity of the research were explained to the participants, and they were assured of adhering to ethical points. Moreover, an effort was made to ensure honesty in reporting the results.

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Authors' Contributions

In this study, the researchers had an approximately equal share.

Conflict of Interest

There was no conflict of interest among the researchers in this study.

References

- Agyabeng-Mensah Y, Tang L, Afum E, Baah C, Dacosta E. (2021). Organisational identity and circular economy: Are inter and intra organisational learning, lean management and zero waste practices worth pursuing? *Sustainable Production and Consumption*. 28: 648-662. doi: [10.1016/j.spc.2021.06.018](https://doi.org/10.1016/j.spc.2021.06.018)
- Basic M. (2021). Organisational learning antecedents and open innovation: Differences in internationalisation level. *International Journal of Innovation Studies*. 5(4): 161-174. doi: [10.1016/j.ijis.2021.12.001](https://doi.org/10.1016/j.ijis.2021.12.001)
- Behzadi N, Razavi SM, Hosseini SR. (2015). Designing a conceptual model for an entrepreneurial university; Using corporate entrepreneurship approach. *Journal of Entrepreneurship Development*. 7(4): 697-713. [Persian] doi: [10.22059/jed.2014.53625](https://doi.org/10.22059/jed.2014.53625)
- Bouma D, Canbaloglu G, Treur J, Wiewiora A. (2023). Adaptive network modeling of the influence of leadership and communication on learning within an organization. *Cognitive Systems Research*. 79: 55-70. doi: [10.1016/j.cogsys.2023.01.003](https://doi.org/10.1016/j.cogsys.2023.01.003)
- Bukhari E, Dabic M, Shifrer D, Daim T, Meissner D. (2021). Entrepreneurial university: The relationship between smart specialization innovation strategies and university-region collaboration. *Technology in Society*. 65: 101560. doi: [10.1016/j.techsoc.2021.101560](https://doi.org/10.1016/j.techsoc.2021.101560)
- Calvo N, Rodeiro-Pazos D, Rodriguez-Gulias MJ, Fernandez-Lopez S. (2019). What knowledge management approach do entrepreneurial universities need? *Information Systems*. 85: 21-29. doi: [10.1016/j.is.2019.06.002](https://doi.org/10.1016/j.is.2019.06.002)
- Chavoshi Z, Khashei V. (2022). The effect of organizational learning mechanisms on strategic innovation capacity. *Journal of Strategic Management Studies*. 13(50): 21-38. [Persian] doi: [10.22034/smsj.2022.135056](https://doi.org/10.22034/smsj.2022.135056)
- Cinar F, Eren E. (2015). Organizational learning capacity impact on sustainable innovation: The case of public hospitals. *Procedia – Social and Behavioral Sciences*. 181: 251-260. doi: [10.1016/j.sbspro.2015.04.886](https://doi.org/10.1016/j.sbspro.2015.04.886)
- Comlek O, Kitapci H, Celik V, Ozsahin M. (2012). The effects of organizational learning capacity on firm innovative performance. *Procedia – Social and Behavioral Sciences*. 41: 367-374. doi: [10.1016/j.sbspro.2012.04.043](https://doi.org/10.1016/j.sbspro.2012.04.043)
- Dabic M, Gonzalez-Loureiro M, Daim TU. (2015). Unraveling the attitudes on entrepreneurial universities: The case of Croatian and Spanish universities. *Technology in Society*. 42: 167-178. doi: [10.1016/j.techsoc.2015.05.007](https://doi.org/10.1016/j.techsoc.2015.05.007)

- Deperi J, Bertrand O, Meschi PX, Nesta L. (2022). An organizational learning approach to digital and non-digital firm acquisition behavior. *European Management Journal*. 40(6): 873-882. doi: [10.1016/j.emj.2022.09.005](https://doi.org/10.1016/j.emj.2022.09.005)
- Esmailzadeh A, Irannezhad P, Jahanian R, Ghasemzadeh A. (2021). The role of informal learning and organizational learning capacity in learning motivation and professional ethics of faculty members in the Eastern Azerbaijan universities. *Iranian Journal of Educational Sociology*. 4(1): 196-205.
- Fuster E, Padilla-Melendez A, Lockett N, Del-Aguila-Obra A. (2019). The emerging role of university spin-off companies in developing regional entrepreneurial university ecosystems: The case of Andalusia. *Technological Forecasting and Social Change*. 141: 219-231. doi: [10.1016/j.techfore.2018.10.020](https://doi.org/10.1016/j.techfore.2018.10.020)
- Ghahremanpour P, Zonoozi SJ, Abolfazli SA. (2020). Studying the effects of organizational resilience capacity and organizational learning on marketing performance: With the mediating effect of product innovativeness and moderating role of environmental turbulence. *Journal of Business Management*. 12(1): 183-197. [Persian] doi: [10.22059/jibm.2019.269367.3319](https://doi.org/10.22059/jibm.2019.269367.3319)
- Gilmore A, McAuley A, Miles MP, Pattinson H. (2020). Four questions of entrepreneurial marketing education: Perspectives of university educators. *Journal of Business Research*. 113: 189-197. doi: [10.1016/j.jbusres.2018.12.016](https://doi.org/10.1016/j.jbusres.2018.12.016)
- Guerrero M, Cunningham JA, Urbano D. (2015). Economic impact of entrepreneurial universities' activities: An exploratory study of the United Kingdom. *Research Policy*. 44(3): 748-764. doi: [10.1016/j.respol.2014.10.008](https://doi.org/10.1016/j.respol.2014.10.008)
- Khakrah F, Malekian F, Saeidipour B, Kavyani E. (2019). Designing the pattern of organizational factors affecting the transfer of learning to the workplace based on grounded theory. *Journal of Research in Teaching*. 6(4): 66-85. [Persian]
- Laguia A, Moriano JA, Gorgievski MJ. (2019). A psychosocial study of self-perceived creativity and entrepreneurial intentions in a sample of university students. *Thinking Skills and Creativity*. 31: 44-57. doi: [10.1016/j.tsc.2018.11.004](https://doi.org/10.1016/j.tsc.2018.11.004)
- Lyman B, Cowan LA, Hoyt HC. (2017). Organizational learning in a college of nursing: A learning history. *Nurse Education Today*. 61: 134-139. doi: [10.1016/j.nedt.2017.11.004](https://doi.org/10.1016/j.nedt.2017.11.004)
- Lyman B, Prothero MM, Parchment J. (2023). Building organizational learning capacity: A road map for nurse executives. *Nurse Leader*. 21(4): 86-90. doi: [10.1016/j.mnl.2022.12.019](https://doi.org/10.1016/j.mnl.2022.12.019)
- Moafimadani SK, Kazempour E, Khalkhali A, Rahimaghaee F. (2020). Designing an organizational learning management model for nurses. *Journal of Military Caring Sciences*. 7(4): 381-393. doi: [10.52547/mcs.7.4.381](https://doi.org/10.52547/mcs.7.4.381)
- Mortezaei H, Salehi M, Niazazari K. (2018). Identify factors affecting the internationalization dimension in entrepreneurial university and its role in creating a knowledge-based economy. *Iranian Journal of Educational Sociology*. 1(7): 129-140.
- Muscio A, Ramaciotti L. (2019). How does academia influence Ph.D. entrepreneurship? New insights on the entrepreneurial university. *Technovation*. 82-83: 16-24. doi: [10.1016/j.technovation.2019.02.003](https://doi.org/10.1016/j.technovation.2019.02.003)
- Omranzadeh E, Khoshchehreh M, Monavarian A, Alaei H. (2017). Explaining the organizational learning pattern in the employees of NIPC. *Quarterly Journal of Public Organizations Management*. 5(3): 97-116. [Persian]
- Rass L, Treur J, Kucharska W, Wiewiora A. (2023). Adaptive dynamical systems modelling of transformational organizational change with focus on organizational culture and organizational learning. *Cognitive Systems Research*. 79: 85-108. doi: [10.1016/j.cogsys.2023.01.004](https://doi.org/10.1016/j.cogsys.2023.01.004)
- Salouki M, Ghorbani M, Zabihi MR, Niroumand HA. (2020). Designing a knowledge management deployment model with an organizational learning approach. *Iranian Journal of Educational Sociology*. 3(4): 19-30. doi: [10.52547/ijes.3.4.19](https://doi.org/10.52547/ijes.3.4.19)
- Sanchez-Barrioluengo M, Benneworth P. (2019). Is the entrepreneurial university also regionally engaged? Analysing the influence of university's structural configuration on third mission performance. *Technological Forecasting and Social Change*. 141: 206-218. doi: [10.1016/j.techfore.2018.10.017](https://doi.org/10.1016/j.techfore.2018.10.017)
- Sidrat S, Frikha MA. (2018). Impact of the qualities of the manager and type of university on the development of the entrepreneurial university. *The Journal of High Technology Management Research*. 29(1): 27-34. doi: [10.1016/j.hitech.2018.04.003](https://doi.org/10.1016/j.hitech.2018.04.003)
- Starostina A, Bugrov V, Kravchenko V, Gatto G, Kochkina N. (2023). Entrepreneurial university: Exploring its essence, phases of development, and operating mechanism during wartime in Ukraine. *International Journal of Educational Development*. 103: 102895. doi: [10.1016/j.ijedudev.2023.102895](https://doi.org/10.1016/j.ijedudev.2023.102895)
- Wakkee I, Nander Sijde P, Vaupell C, Ghuman K. (2019). The university's role in sustainable development: Activating entrepreneurial scholars as agents of change. *Technological Forecasting and Social Change*. 141: 195-205. doi: [10.1016/j.techfore.2018.10.013](https://doi.org/10.1016/j.techfore.2018.10.013)