Identification and Prioritization of Organizational Intelligence Criteria in Production Cooperatives of Iran

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Abstract

Nowadays, organizational intelligence is very important in acquiring necessary information for making suitable decisions and gaining competitive benefits in active environments for generative corporations. So, the present study aims to identify and prioritize organizational intelligent criteria in the production cooperatives of Iran. In methodology, this is an applied (developmental) study objectively and a mixed (quantitative-qualitative) survey regarding the nature of data. The present study is a Grounded theory its nature and methodology in the qualitative section, while it is a descriptive-exploratory study in the quantitative section. The study population consists of experts including the managers of the Ministry of Cooperatives, Labor, and Social Welfare, who were 12 respondents selected using the non-probability purposive and snowball sampling techniques. The dimensions of organizational intelligence, including intelligent enablers, organizational intelligent capabilities, intelligent development contexts, and intelligent governance with 18 criteria were identified using the grounded method. Finally, the cause and effect relationships between the dimensions and criteria were determined by the Analytical Network Process method based on the fuzzy DEMATEL. According to DEMATEL findings, the "intelligent governance" and "intelligent development contexts" dimensions are the cause, while the "intelligent enablers" and "organizational intelligent capabilities" constitute the effect. The "customer relationship management", "organizational learning", and "human

Introduction

Companies are always seeking to introduce new concepts and methods of competing with their rival companies. Therefore, it is now the time for these companies to think seriously about organizational intelligence as an effective resource to utilize organizational barriers to increase internal efficiency and improve their market using their organizational capabilities. The current business environment is characterized by intense competition, rapid technological advances, the challenges of globalization of markets, and unpredictable environmental changes, which force companies to adopt new management approaches such as organizational intelligence. Moreover, they provide a framework for correct decision-making at the right time, which accelerates the conversion of knowledge and expertise to business value (Najm & Alfaqih, 2021). In many companies, organizational intelligence can help respond to the survival challenges in various areas in the strategic adaptation to environmental changes and further empower the company to attain its goals (Daneshfard et al., 2016). In Iran, the cooperatives are constantly exposed to challenges and deep intra- and extra-organizational transformations, and the need for a solution to these challenges is felt more than ever. Production cooperatives have seldom been able to continuously develop their products and services and have faced challenges in creating a competitive price to achieve leadership in the market. The problem faced by production cooperatives is that they have not achieved the success necessary to increase employment and the gross domestic product. In fact, cooperatives fail to effectively use available data and information in their business for decision-making and management because they do not have access to data and information. Due to the lack of knowledge and the needs

of customers, they do not produce products tailored to the customers' needs and tastes, which has decreased their market share. However, a cooperative must monitor its business environment with more knowledge to take the necessary measures intelligently in the face of events.

Background

The notion of organizational intelligence was originally introduced in 1967 by an American professor named Harold Wilensky. He suggested that organizational intelligence, as the organizational capacity with the aid of information, leads the company by gathering, analyzing, and organizing information to produce knowledge and new decision-making methods to improve the company. However, the actual onset of organizational intelligence can be found in the primary studies from 1190 to 2002 on organizational learning and the creation of knowledge in a company (Najm & Alfaqih, 2021). In behavioral sciences, organizational intelligence refers to the ability of an organization to obtain, process, and use information. In the fields of engineering or law, organizational intelligence refers to the organization's evaluation of the nature, abilities, conditions, and potential behaviors of a given institution for use in decision-making on the institution. In the behavioral science discourse, organizational intelligence is among the organizational characteristics. In the everyday discourse of society, however, organizational intelligence is an organization's description of the nature, capabilities, conditions, and potential behaviors of the entity of interest (Huber, 2018). A company's intelligence mirrors its ability to evaluate and use its knowledge of the environment, build new valuable knowledge, and pursue goals effectively and efficiently. A company's intelligence, along with market knowledge and environmental scanning, creates intelligent activities and methods that develop in different sectors (Najm & Alfaqih, 2021). Moreover, this intelligence uses knowledge management as an adaptive tool to cope with its ever-changing environment. This includes understanding the facts, relations, and meanings through knowledge and gathering information (Buchko, 2019).

Organizational intelligence involves developing insight by inferring and recalling prior knowledge to help awareness and act using the determined explanations. Organizational intelligence is a method of converting data into knowledge and knowledge into action to improve the organization. Based on the produced knowledge, it also concentrates on the company's ability in data collection, efficient performance, and knowledge production. Intelligent organizations use their practical ability, knowledge, and experience to support decision-making processes (Soltani et al., 2020). Cooperatives are among the main pillars of every country's economy and play a key role in sustainable economic development. In Third World countries, cooperatives play a role in the implementation of development programs through insignificant investments, government support, and education. In fact, they have many abilities for the economic prosperity of society, resulting in wealth creation, entrepreneurship, social development, and improved social welfare (Khalili et al., 2021). They are one of the organizations that can contribute to justice and comprehensive development. Through cooperation and assistance, they can achieve this goal as the reinforcement of the spirit of collective thinking and participation. The human value and their participation-seeking are supported only in the cooperatives sector, and the amount of individuals' capital is not considered in making decisions. Hence, empowering cooperatives is substantially important for reinforcing the country's economy for the GDP, production improvement, economic growth, employment growth, and sustainable development (Hakemi far, 2015). Accordingly, by virtue of Article 3 of the Constitution of Iran, a cooperative, as one of the three parts of the country's economic system, operates in different economic sectors (Danshmehr et al., 2021). Besides, the country's 2025 development horizon, whereby Iran must have the first economic position among the countries in the region, stresses the need to pay attention to cooperatives. This is because production cooperatives are considered among the most successful socio-economic models in the world and have the ability to serve sustainable development and establish

justice by improving the human and social capital of the productive forces of societies (Aidi & Alizadeh, 2021). Cooperation refers to collaboration and cooperation to meet the common needs of humans and is considered one of the most important continuous interactions. Cooperation is a set of behaviors and principles guiding personal and social life, a means of living, and a philosophy for human life. Cooperatives deliver several moral functions, solve life problems, and secure society's health and social welfare. They play an effective role in undermining social and economic disparities and inequalities, and as a public institution, encourages public participation and active and continuous participation in social activities. Therefore, cooperatives are organizations that are important from both social and economic aspects (Saffari, 2019). Considering the objective of the present study, similar studies have not been observed in this field and thus the grounded theory method was used to attain the objective of the present study. However, it has been attempted to present research on organizational intelligence in this section. Tootian Isfahani and Goudarzi (2019) reported that organizational intelligence dimensions, including strategic insight, shared vision, desire for change, passion, performance pressure, unity and agreement, and application of knowledge, could affect the organizational citizenship behavior. Karimi et al. (2017) studied the identification of the organizational intelligence components with a behavioral and emotional/social approach and ranking using the interpretive-structural model. Their findings showed that the components of leadership, strategic vision, organization, communications, and encouragement were among the variables affecting organizational intelligence. Yarvaisi et al. (2018) carried out a study to identify factors influencing organizational intelligence using the grounded theory. They concluded that "information management, processing and sharing", "concern for organizational communication", "transformation of the organization into a learning organization", "use of effective systems of encouragement and punishment", "personal traits of employees and professors of the organization", "use of capable managers and leaders",

"concentration on correct planning", "concern for the application of technologies", and "organizational support" were among the factors determining organizational intelligence. Najjari et al. (2015) presented an intelligent organization model. The analysis of research findings showed that intelligence in the studied production companies was determined by teamwork, systemic thinking, organizational openness, organizational open-mindedness, and organizational insight constructs (Najjari et al., 2015). Malekzadeh et al. (2013) designed an organizational intelligence hierarchical model for Iranian public universities by the DEMATEL approach. These dimensions were the structural, cultural, strategic, communication, information, procedural, behavioral, and environmental dimensions. The environmental, structural, information, cultural, and strategic dimensions formed the cause (influencing) group, while the communication, procedural, and behavioral dimensions comprised the effect (influenced) group (Malekzadeh et al., 2013). H. Zaied et al. (2018) evaluated factors influencing the success of intelligent business systems and concluded that most organizations would nowadays move toward intelligent information technology infrastructure, with increasing the business information systems. According to their results, business information systems play an important role in organizations, and organization and technology should be the first priority for business information systems. In this regard, support for senior management, proper selection of vendors, business information systems, and the availability of adequate resources are more important than the other factors (H. Zaied et al., 2018).

Method

This is an applied (developmental) study with regard to its objective and a mixed (quantitative-qualitative) research regarding the nature of data, as well as a grounded study based on its nature and method in the qualitative section and a descriptive-exploratory survey in the quantitative section. The study population includes the experts comprising managers

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of the Ministry of Cooperatives, Labor and Social Welfare, and 12 respondents were selected with the non-probability purposive and snowball sampling techniques until achieving theoretical saturation. Table 1 presents the experts' information and characteristics.

Table 1

Experts' Information and Characteristics

No	Field of study	Degree	Occupation class	Work experienc
1	Entrepreneurship management	PhD	General Manager	20
2	Business management	PhD	General Manager	25
3	Agriculture	PhD	General Manager	25
4	Entrepreneurship management	MSc	General Manager	15
5	Agricultural extension and education	MSc	General Manager	18
6	Business administration	MSc	Head of Administration	23
7	Industry and mine	MSc	Head of Administration	30
8	Public administration	PhD	General Manager	25
9	Business management	MSc	General Manager	28
10	Business administration	MSc	Head of Administration	15
11	Business management	PhD	General Manager	24
12	Entrepreneurship management	PhD	General Manager	22

The information was collected by the desk research method, and field data were collected by semi-structured in-depth interview tools and a researcher-made questionnaire. In the quantitative section, the Analytical Network Process (ANP) based on fuzzy DEMATEL (Fuzzy The Decision-Making Trial and Evaluation Laboratory) is used to determine the cause and effect, as well as the weight and priority of the dimensions and criteria of organizational intelligence in production cooperatives of Iran. DEMATEL is a suitable method for complex structures that examines the model of relationships between influencing parameters and presents a visual structural model as a cause-and-effect graph. The different steps of this method are listed in Hu et al. (2015). The ANP method is used to calculate the relative weights of the criteria based on a set of hierarchical

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and internal relationships between the criteria (Yeh & Huang, 2014). The ANP method prioritizes the elements considering the dependence and independence between them (Chen et al., 2019).

Findings

As stated in the methodology section, the study was conducted in qualitative and quantitative sections. In the quantitative section, the model indicators, criteria, and dimensions were identified through interviews with experts using the grounded theory method. In this section, expert interviews were analyzed, and the concepts and categories were examined through three stages of open, axial, and selective coding. In the first stage, data were differentiated, and open codes were extracted from the interviews with 12 experts. Table 2 presents examples of the extracted codes.

Table 2

A Sample Analysis of Key Points

Variable	Open coding
One of the factors that help cooperatives move toward intelligence and sensitivity to external phenomena is the concept of a CRM system so that cooperatives can adapt to the needs and demands of customers, customer relationship patterns, and after-sales services to win customer satisfaction.	Information and communication technology-based CRM (such as artificial intelligence) (A10) - Customer satisfaction (A16) - Creating new tastes in customers (A8)
Infrastructure topics (Internet, Internet penetration rate, Internet bandwidth, etc.), new technologies, and basic tools and hardware that influence the tendency of communities and businesses, including cooperatives, towards innovation and intelligence.	Internet penetration rate (B12) – Attention to new technologies (such as the Internet of Things, cloud computing, etc.) (B8) - Infrastructure (such as the Internet, etc.) (B10) - Information systems and software (e-mail, Instagram, etc.) (B18)
Incentives, supports, taxes, insurance discounts, and other benefits in the cooperatives sector and leading cooperatives toward clustering.	Financial support (C3) - Supervision (C6) - Appropriate banking support (C11) - Tax support (C16)
Intelligent organizations value organizational memory and move toward improving the knowledge of the organization by recording	Organizational Memory (D5) - Sharing and exchanging knowledge and information (D11) - Increasing knowledge and

Variable	Open coding
and classifying information. They help organizational memory to convert the personal information in people's minds.	information of cooperatives and members (D17)

Afterward, the research criteria were formed through axial coding. In this stage, the codes separated in the previous step were connected in a new combination based on their relationship with other codes, thereby forming the criteria. The dimensions were determined in the third stage, where the criteria separated in the previous stage were connected in a new combination based on their relationship with other criteria through selective coding, resulting in the dimensions of organizational intelligence. Table 3 presents the indicators, criteria, and dimensions extracted using the grounded theory method.

Table 3

Dimensions, Criteria, and Indicators extracted

Selected code (Dimensions)	Axial code (Criteria)	Open code (Indicators)
Causal Factors (Enablers of intelligence)	Human intelligence	Data analysis power – Decision-Making power - Experienced and skilled manpower (skills) - User training and support
	Management intelligence	Commitment, –knowledge, and awareness of managers - Appropriate and competent board members - Creative and intelligent managers and employees
	Technological intelligence	Correct and optimal use of the information and communication technology – Attention to new technologies (such as Internet of Things, cloud computing, etc.) - Information systems and software (e-mail, Instagram, etc.) - Business information (BI) systems- BI integrated applications
	Strategic intelligence	Foresight - Research and Development – Concern for Creativity - Robust Organizational Strategy - Cooperation between Business and Information Technology
	Technical	Quality orientation in products and services - Identifying and selecting the appropriate production process

Selected code (Dimensions)	Axial code (Criteria)	Open code (Indicators)
(Core category) Organizational intelligence capabilities	Organizational learning	Increasing the knowledge and information of cooperatives and members - Sharing and exchanging knowledge and information - Timely information - Team cohesion and teamwork
	Data and information	Access to data quality (such as understandable and accurate information) - Proper selection and analysis of information - Architecture, modeling, storage, and processing of data through information integration - Collection of data from multiple information sources (marketing, production, human resources, and finance) - Execution of reports and the ability to visualize data - Use of business process data
	Customer relationship management	Information and communication technology-based CRM (such as artificial intelligence) - Customer satisfaction - Creating new tastes in customers
	Intelligent thinking	Knowledge capital management - Organizational memory - Identifying intelligent resources - Transforming education into learning and skills
	Process	Monitoring the cooperative business environment - Using external advice - Identifying priorities - Correcting communication in cooperatives
Context (Intelligent development Contexts)	Infrastructure	Internet penetration rate - Comprehensive intelligent system of cooperatives sector - Easy access to equipment and facilities - Access to new and intelligent technologies
	Cooperation and communications	Cooperation with the supply chain - Communication with other businesses - Communication with knowledge-based organizations - Increasing communication with the university
	Finance	Financing - Investment - Financial support
	Structure	Independence of cooperatives from the government - large-scale cooperatives - Cluster and group formation
Intervening conditions (intelligent governance)	Government support and incentives	Supervision - Proper banking support - Tax support - Infrastructure (such as the Internet, etc.)
	Organizations and entities	Cooperative Innovation and Development Centers - Collective and Group Entrepreneurship - Cooperation of Government Bodies - Banking System Assistance

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Selected code (Dimensions)	Axial code (Criteria)	Open code (Indicators)
	Laws and regulations	Data governance (information transparency - reputable databases) - Updating laws and regulations - Improving legal issues
	Competition	Creating competition between cooperatives - Ranking cooperatives
Intelligent strategies	Competitive development	Strategy analysis-collection and approval of competitive policies
	Market development	Predictions pertaining to development of marketing-recognition and analysis of new markets-recognition and protection of rivals.
Consequences (intelligent performance)	Sustainable competitive advantage	Increasing market share (increasing the distribution of selling)-promotion of the production-innovation of product-increasing the production-quality promotion.
	improving Productivity	Production factors productivity-deduction of production costs-short-time and long-time productivity of workforce.
	Improving services	Promotion of services to consumers- promotion of marketing-promotion of the efficiency of internal process- Create innovation.
	In national level	Brightness of occupation-development of generative cooperatives.

Recognized dimensions and standards on Paradigm Straus and Corbin (1990) was extracted, and mentioned in figure 1.
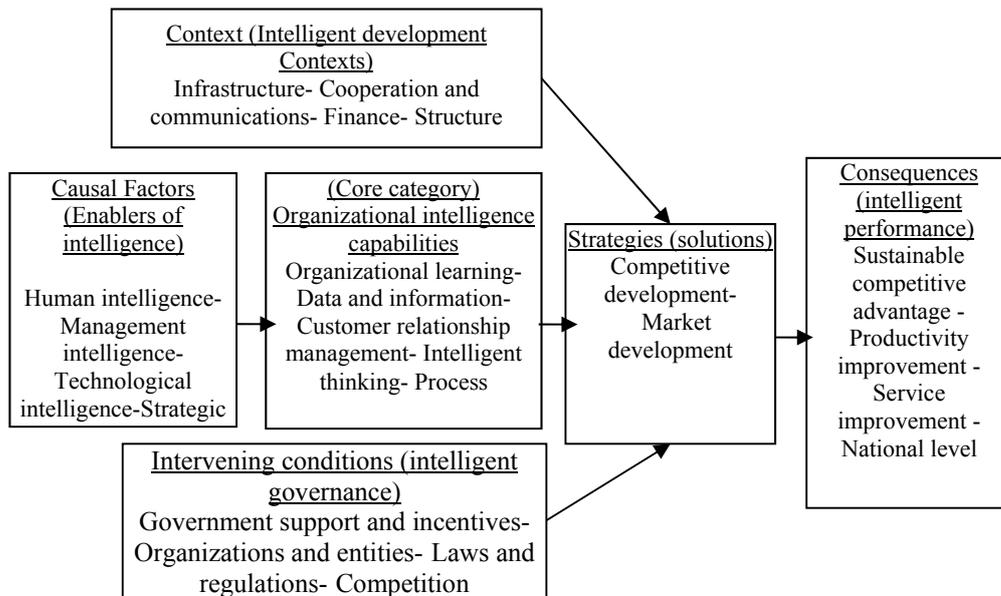
Figure 1

Pattern of Organizational Intelligence Paradigm

After identifying and determining the dimensions and criteria of organizational intelligence in production cooperatives, the combined DEMATEL method based on a fuzzy ANP was used to determine the relationships between dimensions and identify the cause and effect criteria as well as to determine their weight and priority due to their interdependence. Figure 2 shows a model with a network structure of organizational intelligence in production cooperatives.
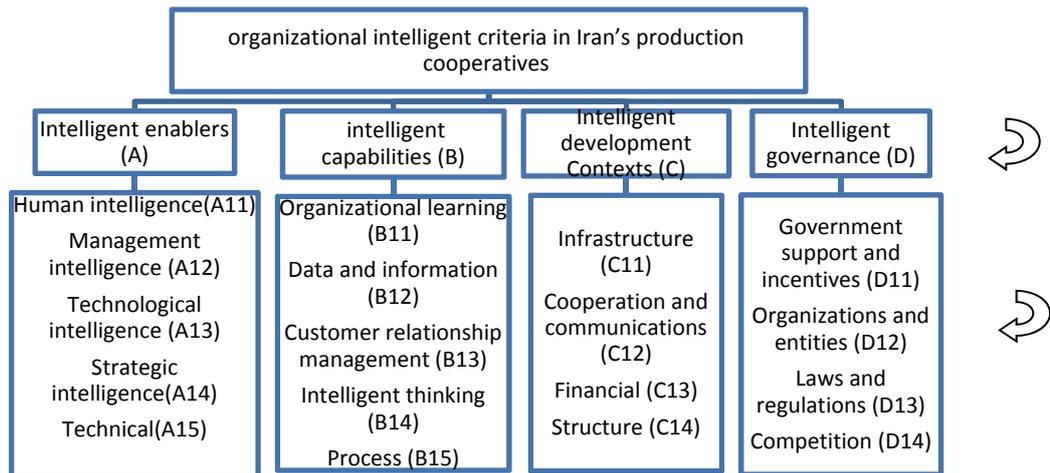
Figure 2

A model With the Network Structure

To solve DEMATE, a pairwise comparison questionnaire was first designed, and 12 experts responded to the influence of each dimension and criterion on each other based on a scale from "no impact (0)", "low impact (1)", "medium impact (2)", "high impact (3)", and "extremely high impact (4)". Thereafter, the comments of the experts were converted into fuzzy numbers and then consolidated to form a matrix of fuzzy direct relations (Tables 4 and 5).

Table 4.

Fuzzy Direct Relationship Matrix

	A			B			C			D		
	L	M	U	L	M	U	L	M	U	L	M	U
A	0	0	0	0.62	0.87	1	0.12	0.37	0.62	0.08	0.25	0.5
B	0.12	0.37	0.62	0	0	0	0.04	0.25	0.5	0	0.16	0.41
C	0.45	0.70	0.95	0.70	0.95	1	0	0	0	0.08	0.29	0.54
D	0.37	0.62	0.83	0.62	0.87	1	0.29	0.54	0.79	0	0	0

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Table 5

Fuzzy Direct Relationship Matrix Between Criteria

	A_{11}			A_{12}			$C_{...}$	D_{43}			D_{44}		
	L	M	U	L	M	U	...	L	M	U	L	M	U
A_{11}	0	0	0	0.05	0.3	0.55	...	0.4	0.65	0.9	0.3	0.55	0.8
A_{12}	0.5	0.75	0.95	0	0	0	...	0.4	0.65	0.9	0	0.1	0.35
A_{13}	0.25	0.5	0.75	0	0.2	0.45	...	0.65	0.9	1	0.15	0.25	0.5
A_{14}	0.65	0.9	0.95	0.15	0.4	0.65	...	0.2	0.45	0.7	0.1	0.35	0.6
A_{15}	0.2	0.45	0.7	0	0.05	0.3	...	0.15	0.4	0.65	0.1	0.35	0.6
B_{21}	0.5	0.75	1	0.5	0.75	1	...	0.45	0.7	0.9	0.15	0.25	0.45
B_{22}	0.55	0.8	1	0.5	0.75	1	...	0.15	0.4	0.65	0.1	0.2	0.45
B_{23}	0.1	0.35	0.6	0.3	0.55	0.8	...	0.15	0.4	0.6	0.15	0.35	0.55
B_{24}	0.7	0.95	1	0.45	0.7	0.95	...	0.25	0.5	0.75	0.1	0.3	0.55
B_{25}	0.5	0.75	1	0.45	0.7	0.95	...	0.35	0.6	0.85	0.1	0.15	0.4
C_{31}	0.7	0.95	1	0.2	0.45	0.7	...	0.1	0.35	0.6	0	0.05	0.3
C_{32}	0.7	0.95	1	0.2	0.45	0.7	...	0.1	0.2	0.45	0.1	0.2	0.45
C_{33}	0.55	0.8	1	0.1	0.15	0.4	...	0.45	0.7	0.85	0.45	0.7	0.9
C_{34}	0.15	0.2	0.4	0.1	0.2	0.45	...	0.15	0.4	0.65	0.45	0.7	0.95
D_{41}	0.05	0.1	0.35	0.05	0.1	0.35	...	0.7	0.95	1	0	0.15	0.4
D_{42}	0.3	0.55	0.8	0.35	0.6	0.85	...	0.7	0.95	1	0	0.15	0.4
D_{43}	0.15	0.25	0.5	0	0.1	0.35	...	0.7	0.95	1	0	0	0
D_{44}	0.4	0.65	0.9	0.25	0.5	0.75	...	0	0	0	0	0.1	0.35

A general relation matrix was obtained following the calculations of the DEMATEL method for the matrix. In this matrix, the influencing factor $(\widetilde{D})$ of each criterion was obtained based on the sum of the columns of the general relationship matrix, and their influenced factor $(\widetilde{R})$ was obtained using the sum of the rows of the general relationship matrix. The interaction was also obtained through the sum of $\widetilde{D} + \widetilde{R}$, and the net intensity of $(\widetilde{D})/(\widetilde{R})$ was obtained through the subtraction of $\widetilde{D} - \widetilde{R}$ for each of the dimensions and criteria. These values are presented in Table 6.

Table 6

Values of $\widetilde{D}$, $\widetilde{R}$, $\widetilde{D} + \widetilde{R}$, and $\widetilde{D} - \widetilde{R}$

Dimensions / Criteria	$\widetilde{D}$	$\widetilde{R}$	$\widetilde{D} + \widetilde{R}$	$\widetilde{D} - \widetilde{R}$	Result
enablers intelligent	1.205	1.368	2.573	-0.163	effect
Human intelligence	0.576	0.629	1.205	-0.054	effect
Management intelligence	0.524	0.431	0.954	0.0932	Cause
Technological intelligence	0.485	0.497	0.982	-0.012	effect
Strategic intelligence	0.597	0.417	1.013	0.1799	Cause
Technical	0.42	0.628	1.047	-0.208	effect
organizational intelligent capabilities	0.828	1.864	2.692	-1.036	effect
Organizational learning	0.572	0.498	1.07	0.0749	Cause
Data and information	0.569	0.42	0.989	0.1491	Cause
Customer relationship management	0.285	0.672	0.957	-0.387	effect
Intelligent thinking	0.576	0.375	0.951	0.2001	Cause
Process	0.434	0.471	0.905	-0.037	effect
Intelligent development Contexts	1.465	1.042	2.507	0.424	Cause
Infrastructure	0.411	0.25	0.661	0.1619	Cause
Cooperation and communications	0.25	0.439	0.689	-0.19	effect
Financial	0.348	0.409	0.757	-0.06	effect
Structure	0.363	0.275	0.638	0.0879	Cause
intelligent governance	1.551	0.776	2.328	0.775	Cause
Government support and incentives	0.343	0.273	0.616	0.0697	Cause
Organizations and entities	0.359	0.362	0.721	-0.002	effect
Laws and regulations	0.356	0.242	0.598	0.114	Cause
Competition	0.314	0.495	0.809	-0.181	effect

According to Table 6, the dimensions of "intelligent governance" and "intelligent development contexts" are influencing and causal factors due to a positive $\widetilde{R}$-$\widetilde{D}$. Causal factors are independent variables with strong conductivity power but weak dependence. Moreover, the dimensions of "intelligence enablers" and "organizational intelligence capabilities" $\widetilde{R}\widetilde{D}$are the influenced and effect factors because of a negative $\widetilde{R}$-$\widetilde{D}$. The effect factors are dependent variables with low conductivity but high

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dependence. Based on the values of $\tilde{R}+\tilde{D}$ and $\tilde{R}-\tilde{D}$ (Table 6), the cause and effect diagram was finally drawn as shown in Figure 3.
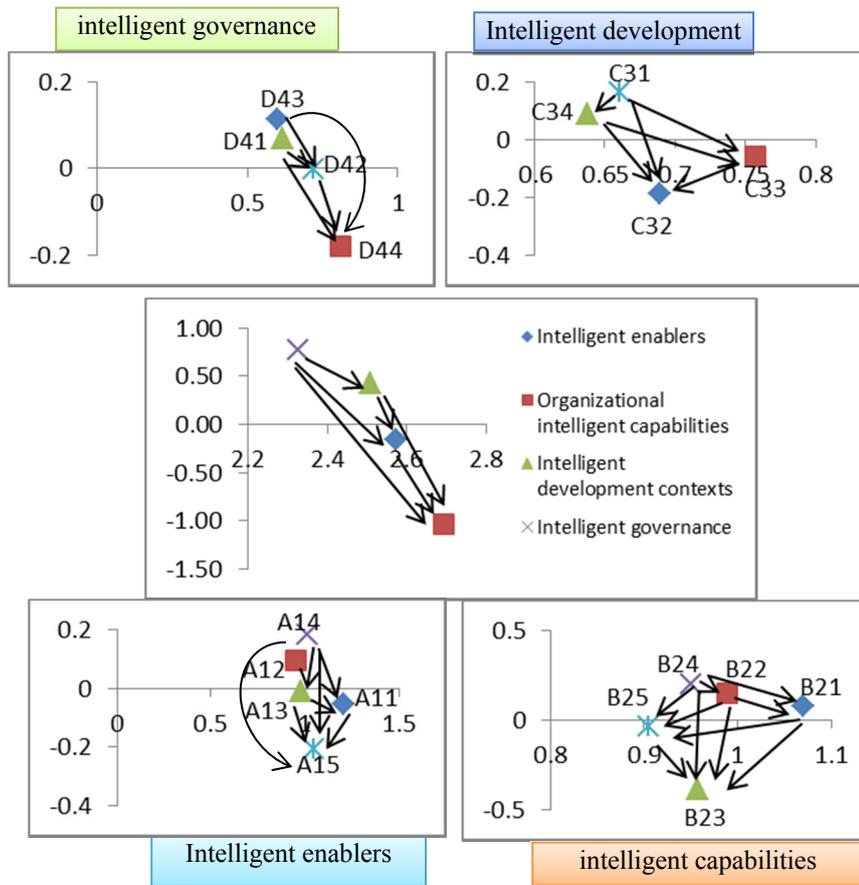
Figure 3
Cause and Effect Diagram

These results are interpreted to indicate that, when considering the improvement, the experts all agree that the first priority for improvement should be the aspect of intelligence governance (D), which can influence the remaining dimensions of intelligence development (C), intelligent enablers (A), and organizational intelligence capabilities (B).

Figure 2 indicates that strategic intelligence (A_{14}) and "technical" criteria are respectively the most influencing and influenced criteria among intelligent enablers (A), and the remaining criteria could be ordered as A_{12}, A_{13}, A_{11}, and A_{15}. Among organizational intelligence capabilities (B), intelligent thinking (B_{24}) and "customer relationship management" are the most influencing and influenced criteria, respectively, and the remaining criteria could be ordered as B_{22}, B_{21}, B_{25}, and B_{23}. Infrastructure (C_{31}) influences the other intelligence development criteria (C), and the remaining criteria could be ordered as C_{34}, C_{33}, and C_{32}. Laws and regulations (D_{43}) is the most influenced criterion. Among intelligence governance criteria (D), "laws" and competition the most influencing and influenced criteria, respectively, and the remaining criteria could be ordered as D_{41}, D_{42}, and C_{44}. The ANP method was used to weight and prioritize the dimensions and criteria of organizational intelligence. To solve the fuzzy ANP model, the general relationship matrix of the DEMATEL was first normalized to obtain a fuzzy weighted super matrix, which was converged to a power of 17 to form a limited super matrix. Finally, the weights of the dimensions and criteria were determined after obtaining and defuzzification of the limited super matrix (Table 7).

Table 7

Weights and Priorities

Dimensions / Criteria	code	Local Weights	Global Weights	prioritizing
enablers intelligent	A	0.299	-	2
Human intelligence	A_{11}	0.2504	0.0749	3
Management intelligence	A_{12}	0.187	0.0559	10
Technological intelligence	A_{13}	0.1611	0.0482	12
Strategic intelligence	A_{14}	0.189	0.0565	9
Technical	A_{15}	0.2127	0.0636	7
organizational intelligent capabilities	B	0.375	-	1
Organizational learning	B_{21}	0.2227	0.0834	2
Data and information	B_{22}	0.1837	0.0688	4

Dimensions / Criteria	code	Local Weights	Global Weights	prioritizing
Customer relationship management	B_{23}	0.265	0.0993	1
Intelligent thinking	B_{24}	0.1738	0.0651	6
Process	B_{25}	0.1548	0.058	8
Intelligent development Contexts	C	0.198	-	3
Infrastructure	C_{31}	0.1917	0.038	14
Cooperation and communications	C_{32}	0.281	0.0556	11
Financial	C_{33}	0.3359	0.0666	5
Structure	C_{34}	0.1916	0.038	15
intelligent governance	D	0.128	-	4
Government support and incentives	D_{41}	0.1604	0.0206	18
Organizations and entities	D_{42}	0.2595	0.0333	16
Laws and regulations	D_{43}	0.0206	0.0281	17
Competition	D_{44}	0.0206	0.0463	13

According to Table 7, among the dimensions, "organizational intelligence capabilities" with a weight of 0.375 is the first priority in the organizational intelligence of production cooperatives in Iran. The "intelligent enablers" dimension with a weight of 0.299 gained the second priority. The dimension of "intelligent development contexts" with a weight of 0.198 has the third priority, and, finally, the dimension of "intelligent governance" with a minimum weight of 0.128 has the last priority. Among the organizational intelligence criteria of production cooperatives in Iran, the "customer relationship management" criterion has the highest weight of 0.099 with the first priority. The "organizational learning" and "human intelligence" criteria with weights of 0.083 and 0.075 have the second and third priorities, respectively. Besides, the "government support and incentives" and "laws" criteria with weights of 0.021 and 0.028 have the least priority.

Conclusion and Suggestions

Today, one of the problems faced by the production cooperatives in Iran is the lack of access to suitable data and information for proper

decision-making in the business sector. They seek to acquire comprehensive knowledge and information of their environment to improve the quality of their decisions. To this end and to help the production cooperatives in Iran, the present study was conducted to identify and determine the priority of the dimensions and criteria of organizational intelligence in production cooperatives of Iran. The dimensions and criteria were identified and determined using the grounded theory method. The findings of this method revealed that the organizational intelligence dimensions of production cooperatives included the intervening factors of "intelligent governance", underlying factors of "intelligent development contexts", causal factors of "intelligent enablers", and the core category of "organizational intelligence capabilities", consisting of 18 criteria. The weights and priorities of the identified dimensions and criteria were determined using a combined ANP method based on DEMATEL. The findings of the DEMATEL technique indicated that the dimensions of "intelligent governance" and "intelligent development contexts" were the most influencing factors on the intelligence of production cooperatives, hence, managers should focus on these dimensions to improve intelligence. "Intelligent governance" creates the need for intelligence. They are the environmental dimension influencing the intelligence of cooperatives in which the government plays a critical role by providing the environment and context for cooperative intelligence through proper planning. These plans can be made through support and incentives, cooperation between institutions and organizations, and the preparation and development of appropriate laws for the development of production cooperatives. Moreover, the "intelligent development contexts" dimension should be reinforced in line with the intelligence of cooperatives. Contexts include the infrastructure such as facilities and technologies, cooperation and communications, finance and structure. The "intelligent enablers" and "intelligent capabilities" dimensions are the most influenced factors in the intelligence of production cooperatives in Iran, which should be improved as soon as

possible to improve intelligence. Intelligent enablers are the casual influencing factors on intelligence and their reinforcement increases organizational intelligence. Organizational intelligence capabilities also refer to characteristics that enable the production cooperatives of Iran to create intelligence through the collection of data and information. These characteristics are essential for providing the proper performance and achieving success in organizational intelligence. The ANP findings showed that the "customer relationship management" criterion had the utmost importance in organizational intelligence and gained the first priority. Managers' first decision for organizational intelligence is to obtain information about customer tastes and behaviors through CRM to be able to produce and offer products tailored to customers' tastes and needs. The "organizational learning" criterion has the second importance and priority. Production cooperatives should improve their information and knowledge of their own field of business to transform into learning organizations. The "human intelligence" criterion is of the third importance and priority. To transform into an intelligent organization, the production cooperatives in Iran should improve the technical, analytical decision-making skills and experiences of their employees through training programs. The "information and data" criterion is of the fourth importance and priority. Given the large body of data in the business environment, it is necessary to use proper techniques, tools, and technologies to regularly collect and analyze data after being converted to information for use in organizational intelligence. The "finance" criterion is of the fifth importance. To be intelligent, production cooperatives need financing and investment to prevent the failure of the intelligence project. The use of techniques, training, and technologies calls for the financial support of the management and the government. In this regard, the government can build a culture by supporting collective investments in cooperatives.

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