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INVESTIGATION AND RANKING OF FACTORS AND INDICATORS AFFECTING THE IMPLEMENTATION OF KNOWLEDGE MANAGEMENT IN KNOWLEDGE-BASED ENTERPRISES

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ABSTRACT

This research was conducted with the aim of reviewing and ranking the factors affecting the implementation of knowledge management in knowledge –based societies in Fars province. The current research is applied in purpose and exploratory in terms of research type. The present research first began with a qualitative approach consisting of a review of the literature of research and at the next stage, the dimensions and components that affect the implementation of knowledge management using Delphi technique and using the opinions of experts familiar with the subject matter were analyzed. Then, based on Delphi output, the final questionnaire was designed and then used after validity and reliability measurements. On the other hand, the statistical population of the study was determined in two phases. Phase I: Professors, researchers, researchers and industrial experts familiar with the subject. The sampling method at this stage is snowball, and the second phase of the statistical society consists of managers, supervisors and experts of different sectors of knowledge –based societies in Fars province. At this stage, to calculate the sample size, the Cochran formula with the ratio of success in the limited population to calculate the number of the whole sample was used. The sampling method is also random in this step. The findings of the research showed that effective dimensions on the implementation of knowledge management in Knowledge –based Enterprises consist of four dimensions of cultural, environmental, managerial, and strategic resources and resources of organizational talents. On the other hand, the results of the ranking indicated that the two environmental and managerial and strategic factors had the highest rank and among the components, respectively, the components of the design and development of multi-function teams, the degree of communication with universities and research institutes and the organizational structure of organic Have the highest rank in implementing knowledge management in knowledge-based enterprises and therefore, proposing practical applications for successful implementation of knowledge management should be made according to these results.

Keywords: *Effective Factors, Implementation, Knowledge Management, Knowledge –based Enterprises.*

INTRODUCTION

In the current age, the importance of implementing knowledge management in organizations is recognized as the most important capital of an organization, and the success of organizations depends on their ability to create, acquire, and transfer knowledge. The entry into the information age, the expansion of tools and applications of the new technology of communication and information has led to the emergence of a new approach to the management of organizations. Today, the axis of development and pioneering is not the wealth

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and mass of human resources, but human knowledge and the ability to effectively manage this knowledge. The study of the experiences and achievements of pioneering global organizations suggests that this pioneering and innovation is not possible except in the context of creating, processing, developing, exchanging, recording and disseminating Knowledge –based Organizations. In this regard, Simmons (2011) states that what has led the organization toward KM implementation is the existence of useful but dispersed and hidden experience in different layers of the organization, the wasting of knowledge due to early retirement and increased quotes. The transfer of staff, the high risk of access to knowledge at the strategic and tactical level and also the undeniable reality, has required constant and continuous learning. Leading organizations pursue goals through knowledge management, including organizational growth, quality improvement, productivity improvement, and profitability. Khlifa et al. (2003) believe that by implementing knowledge management, we can identify shortcomings in Knowledge –based Organizations; productivity more than human capital; learning more efficiently and efficiently than colleagues; providing value added services; increasing the quality of goods; preventing repetition of mistakes; reducing redundancy; saving time while analyzing topics; stimulating creativity and innovation; and building closer relationships with individuals. Mirghafoor et al. (2017) argued that organizations regard their knowledge as a strategic and valuable source and believe that their spiritual resources should be well managed in order to preserve their livelihoods and competencies. In order to achieve this goal, knowledge management has become a fundamental concept in the business world. On the other hand, in the current era and knowledge-based economies, Knowledge -based Enterprises have been introduced as the engine of creativity and innovation, which requires special attention to expand their activities. Indeed, since Knowledge-based enterprises are typically considered to be small and medium-sized enterprises, they are of great importance in the growth and economy of each country. Also, knowledge-based enterprises and the recognition and prioritization of variables that affect these types of businesses can prevent a possible failure in their early years. One of these variables, according to researchers, is to examine the implementation of the concept of knowledge management in this category of enterprises that has so far received little attention. Indeed, studies on factors affecting the success of executive actions and the implementation of knowledge management are mainly focused on large enterprises, which is the main reason for these enterprises to push for the implementation of knowledge management, but little attention is paid to technology enterprises And foundation knowledge, which are typically small firms, and so this research seeks to resolve this research gap. Therefore, the purpose of the present study is to examine and rank the factors and indicators that affect the implementation of knowledge management in knowledge-based enterprises (Case Study: Fars Province).

THEORETICAL FOUNDATIONS AND RESEARCH BACKGROUND

Theoretical Foundations of Research

- ***Review and clarify the concept of knowledge management and its implementation***

Knowledge Management is not a new concept. Perhaps many of us manage the knowledge without having the slightest understanding of it. Human civilizations from one generation to the next are storing and transferring knowledge to understand past and predict the future.

What is important today is the discipline of these activities and having a plan for its implementation, which is typically a new topic that was considered at the end of the 20th century. Knowledge management is a new and valuable approach, along with other competitive and business strategies, for which organizations have been keen to implement knowledge management programs to take advantage of their potential benefits (Shabani, 2016). Gupta et al. (2000) identified knowledge management as a process in which the organization helps identify, select, distribute and transfer the information and expertise required for activities such as problem solving, dynamic learning, strategic planning, and decision making that they do. Malhotra (2000) states that knowledge management focuses on creating, sharing, and influencing knowledge in the mind, mind and imagination of individuals and it tries to collect and manage distributed knowledge in individuals in an organization to lead to the creation of new knowledge. On the other hand, several studies have been conducted on the benefits of KM implementation. For example, Chang et al. (2009) state that by designing and organizing the KM process, knowledge can be transmitted, tacit knowledge, skills and workflow into procedures, standardization and analysis of documenting content and provided a platform for competition, competitive advantage and sustainable development. Chua & Lam (2005) states that the importance of KM implementation can be mentioned, including improving business process, economical savings, generating more revenue, increasing user acceptance, increasing competitiveness, improving product quality, reducing Project time and avoid mistakes. Akhgar et al. (2012) point out the importance of knowledge management for today's organizations. Knowledge management is a determining factor in the success of an organization, and its effective use can lead to improved performance, efficiency, cost reduction, increasing revenue, improving the level of innovation and organizational creativity, documenting organizational practices and practices, and, consequently, enhancing the level of competitiveness of the organization.

- ***Exploring and explaining the concept of Knowledge-based Enterprises***

In today's changing world, the infrastructure of industrial economies has shifted from the focus of resources to the core of intellectual capital, and as such, the factor of knowledge becomes more and more important. In such a situation, a new form of organization is needed: organizations known as knowledge-based systems and so-called Knowledge-based Enterprises are a vital factor for economic development in a country. Based on the definitions and considerations, Knowledge -based Enterprises does not refer only to the learning process and the use of knowledge in the organization, and is more comprehensive than the concept of Knowledge-Based Organization, and the purpose of Knowledge-based Enterprises, the newly established enterprises with size of small and medium, with their main focus on technology. The term knowledge-based business is a relatively new term, as many countries have not yet provided a clear definition of it. Some scholars call Knowledge-based Institutes the "institutions" that use their knowledge assets as the main source of competitive advantage (Khayatian et al., 2015). In another study, the Knowledge-based Institutes profile is summarized as follows: The ratio of specialist forces to total staff is high in these institutions, technological changes in these institutions are higher than in the traditional industries, in these institutions more research and development of the face And growth and development in them is more reliant on technology development, in addition, their competitive advantage is mainly technological innovation, and eventually these enterprises quickly capture new markets. The

European Union has also given similar features for the definition of small technology enterprises as distinctive features in defining these institutions (Fakhari, 2014). The concept followed by Knowledge -based Enterprises here is more and more overlapping with the concepts of small and medium enterprises, startups, high technology industries, new technology-based-enterprises and generative enterprises.

Review of internal and external research (background research)

Lee & Lee's (2010) research shows that the researchers described the key success factors in the form of 12 cases, including: good management support, proper knowledge culture, financial resources, technological infrastructure, inter-departmental relationships, human resources development, knowledge-based utilization, knowledge management strategy, rewards and incentives for knowledge management, systematic activities and processes of knowledge management , core business values and organizational infrastructure. Valmohammadi (2010) also states that top management support, organizational culture, technological infrastructure, KM strategy, performance measurement, organizational infrastructure, activities and processes, rewards and incentives, resource constraints, education and training, HRM, and modeling the factors affecting the implementation of KM. Wong (2005) describes the number of managerial factors that are effective in the successful implementation of knowledge management in the form of 11 cases. The factors extracted by Cowanio Wong and Ellin Spin Wall, eleven items include the following factors: Leadership and leadership support, culture, information technology, goals and strategy, evaluation, organizational infrastructure, organizational activities and processes, incentives, resources, training, HRM. In his research, Davenport and Grover (2004) identified 8 advantages of implementing and managing knowledge management, preventing knowledge loss, improving decision making, flexibility and adaptability, competitive advantage, knowledge development, product enhancement, customer orientation and capital utilization. Invest in the human capital sector. Haghi et al. (2014), in their study, ranked the factors influencing the success of knowledge management implementation in knowledge-based enterprises and identified seven key factors of leadership, organizational culture, resources and human resources, information technology assessment and measurement of performance, strategies, processes and The activities that have been identified as effective factors in the successful implementation of knowledge management in knowledge enterprises have been identified.

Introducing factors and indicators that affect the implementation of knowledge management

In this section, following the review and review of similar internal and external studies, the following table describes the effective factors and indicators for implementing KM.

Table 1: Factors and components affecting the implementation of knowledge management

Row	Factor (dimension)	Component (index)
1	Cultural	Existence of entrepreneurial spirit and innovation among employees (Singh & Kant, 2008)
2		The amount of support for intellectual capital of the organization (Singh & Kant, 2008)
3		Use incentives and incentive incentives (Carmelli and Tishler, 2004)
4		The existence of a stimulating creativity culture (Magnier-Watanabe et al, 2010)

5		Support for sharing and sharing knowledge (Carmelli and Tishler, 2004)
6		Employee Risk Protection (Carmelli and Tishler, 2004)
7	Peripheral	Attention to competitors in the market (Alem Tabriz and Bagherzadeh Azar, 2012)
8		Governmental policies (Slice et al., 2004)
9		The amount of participation with influential sectors outside the company (Slick et al., 2004)
10		Modeling of successful organizations (Sayadi et al, 2016)
11		Forecast of the future business environment (Alem Tabriz and Bagherzadeh Azar, 2012)
12		Relationships with universities and research institutes (Carmelli and Tishler, 2004)
13		Communication with the global market (Lee and Lee, 2010)
14		Organization's ability to identify opportunities (Lee & Lee, 2010)
15		Access to researchers and professionals (Ojasalo, 2008)
16	Managerial and strategic	Appropriate Strategic Perspective and Program (Lee & Lee, 2010)
17		Organic Organizational Structure (Sing, 2008)
18		Commitment and support of company management (Sing, 2008)
19		Company Infrastructure (Sayadi et al, 2016)
20		Organization Leadership and Leadership (Sing, 2008)
21		The amount of investment in the company's research and development division (Magnier-Watanabe et al, 2010)
22		The precise design of the processes and activities of the various parts of the organization (Sayadi et al, 2016)
23		Attitudes based on company resources (Dangayach and Deshmukh, 2001)
24	Organizational resources and talents	Powerful manpower (Ojasalo, 2008)
25		Design and development of multi-function teams (Ojasalo, 2008)
26		Company financial condition (Dangayach and Deshmukh, 2001)
27		Availability of talents and skills required (Ojasalo, 2008)
28		The degree of integrity and the relationship between different parts of the company (Sing, 2008)
29		Attention to training and training of human resources (Sing, 2008)

RESEARCH METHODOLOGY

The present research is a purposeful, applied and exploratory research in which the mixed approach (qualitative and quantitative) has been used to achieve the research objectives. In the present study, finding the factors and factors that affect the implementation of knowledge management in Knowledge -based Enterprises (case study: Fars province), first, with a qualitative approach including a review of the literature of research (Table 1), and in the next step, these dimensions and components They have been analyzed using the Delphi technique. The method was used in two different rounds described in the section of the findings and after the various stages, the main factors and components were confirmed and included in the main questionnaire of the research. It should be noted that Kendal's correlation coefficient is used to determine the degree of consensus among the members of the Delphi panel. This coefficient is a nonparametric test and is used to determine the degree of coordination between the comments. The Kendall coefficient varies between 0 and 1. If the Kendall coefficient is zero, that is, a complete disagreement and if there is one, there is a complete agreement. After reviewing and modifying the indicators at the qualitative stage, the main questionnaire of the research was compiled and after confirmation of validity and reliability. To analyze the

collected data, statistical methods such as t-test and normality test were used by SPSS software and TOPSIS technique to rank the factors and factors affecting KM implementation.

Table 2: The number of members of the Delphi panel

Delphi steps	Delphi panel number	Distributed number	The number of collected
The first round Delphi model	10	10	9
The second round Delphi model	10	10	8

On the other hand, the research community has been identified in two phases:
Phase 1: Professors, researchers and industry experts familiar with the subject. Sampling method at this stage is snowball. The second phase of the statistical population consisted of managers, supervisors and experts from various Knowledge-based enterprises of Fars province, which according to the current statistics, is 324 people. In addition, at this stage, the Cochran formula was used to calculate the sample size with the ratio of success in the limited population, which showed that the sample requirement is approximately 178 people. To evaluate the validity of the final questionnaire, content validity was used. In order to evaluate the content validity, which is typically qualitative, experts have been used. Since all items of the questionnaire used for measuring the structure are based on previous studies and the questionnaire was first reviewed by the professors and experts, and based on their feedback, in order to reduce the ambiguities, the final version and the final questionnaire were compiled Its content validity can be assured. The reliability of the questionnaire was used by Cronbach's alpha method. The results of this study showed that the reliability of the final questionnaire is 0.768, which is more than 0.7, because of the reliability of the questionnaire.

FINDINGS OF THE RESEARCH

Delphi Findings

After extracting the factors and indicators affecting the implementation of KM in Knowledge - based Enterprises, according to Table 1, a 5-option Likert scale was prepared based on these indices and sent to members of the Delphi panel. In this research, the Delphi method was used in two rounds as follows:

Table 3: Results from Delphi's first round

Row	Index name	Average scores earned	Significance level
1	Existence of entrepreneurial spirit and innovation among employees	3.889	0.000
2	The amount of support for intellectual capital of the organization	3.780	0.000
3	Use incentives and incentive incentives	4.222	0.000
4	The existence of a stimulating creativity culture	3.456	0.000
5	The amount of support for sharing and sharing knowledge	4.445	0.001
6	The level of employee risk support	4.387	0.000
7	Attention to competitors in the market	4.123	0.000
8	Government policies	3.950	0.000
9	The amount of participation with the affected sectors outside the company	3.578	0.000

10	Modeling of successful organizations	4.222	0.000
11	Forecast of the future business environment	3.456	0.000
12	Relationships with universities and research institutes	4.445	0.000
13	Relationship with the global market	4.300	0.000
14	The organization's ability to identify opportunities	4.123	0.000
15	Access to researchers and professionals	3.800	0.000
16	Appropriate strategic vision and vision	3.300	0.000
17	Organic organizational structure	3.456	0.003
18	Commitment and support of company management	4.300	0.001
19	Company infrastructure	4.100	0.000
20	The way guidance and leadership of the organization	3.456	0.000
21	The amount of investment in the company's research and development department	4.005	0.001
22	Detailed design of processes and activities of different parts of the organization	2.456	0.000
23	Attitudes based on company resources	4.100	0.000
24	Powerful manpower	3.456	0.002
25	Design and development of multi-function teams	4.100	0.001
26	Financial status of the company	3.500	0.000
27	Existence of talents and skills required	3.800	0.001
28	The degree of integrity and the relationship between different parts of the company	3.456	0.000
29	Attention to training and training of human resources	4.387	0.000

For this time, the coefficient of coordination of Kendall 0.445 and Chi-square was 14.542 and a significant of 0.036. Therefore, considering the low Kendall coordination coefficient and the significance of the difference in mean rank, there is no consensus among the members of the panel. As a result, the questionnaire was re-examined. Also, 1 index with an average of less than 3 was deleted, which is highlighted in the table above.

Table 4: Results from Delphi's second round

Row	Index name	Average scores earned	Significance level
1	Existence of entrepreneurial spirit and innovation among employees	4.123	0.000
2	The amount of support for intellectual capital of the organization	3.500	0.000
3	Use incentives and incentive incentives	3.500	0.000
4	The existence of a stimulating creativity culture	3.800	0.000
5	The amount of support for sharing and sharing knowledge	3.500	0.000
6	The level of employee risk support	4.005	0.000
7	Attention to competitors in the market	4.123	0.000
8	Government policies	3.500	0.001
9	The amount of participation with the affected sectors outside the company	3.345	0.000
10	Modeling of successful organizations	4.300	0.000
11	Forecast of the future business environment	4.005	0.002
12	Relationships with universities and research institutes	4.005	0.001
13	Relationship with the global market	3.500	0.000

14	The organization's ability to identify opportunities	3.800	0.000
15	Access to researchers and professionals	4.300	0.000
16	Appropriate strategic vision and vision	4.005	0.000
17	Organic organizational structure	4.100	0.003
18	Commitment and support of company management	4.100	0.000
19	Company infrastructure	4.005	0.000
20	The way guidance and leadership of the organization	4.123	0.000
21	The amount of investment in the company's research and development department	4.333	0.000
22	Attitudes based on company resources	3.567	0.000
23	Powerful manpower	4.100	0.001
24	Design and development of multi-function teams	3.650	0.000
25	Financial status of the company	3.650	0.000
26	Existence of talents and skills required	4.005	0.002
27	The degree of integrity and the relationship between different parts of the company	4.123	0.000
28	Attention to training and training of human resources	3.500	0.000

For this time, Kendall's correlation coefficient of 0.823 and Chi-square were 12.66 and a significant of 0.110. Therefore, due to the high Kendall co-ordination coefficient and the non-significant difference in mean rank, there is a consensus among the members of the panel. As a result, the indicators were confirmed by experts.

Findings of the demographic section

After distributing 178 questionnaires among the research community, 143 valid questionnaires (approximately 81%) were obtained. Findings related to its demographic variables such as gender, work record and qualifications are as follows.

Table 5. Demographic research findings

According to gender		
Gender	Frequency	Frequency percentage
Man	106	74.1
Female	37	25.9
Total	143	100
According to the level of education		
education	Number	Percentage
Assistant and lower	7	4.9
Masters	109	76.2
Masters and higher	27	18.9
Total	143	100
According to work experience		
Work experience	Number	Percentage
Less than 5 years	22	15.4
Between 5 and 10 years	74	51.7
Between 10 and 15 years	27	18.9
More than 15 years	20	14
Total	143	100

Normality review

Kolmogorov-Smirnov test has been used to investigate the normality of the distribution of research data. The results of the table below indicate that the data related to the research questionnaires follow the normal distribution due to larger values of the significance level of 0.05.

Table 6: Results of the measurement of the normal distribution of research data

		Final research questionnaire
	(Number)	143
(Normal parameters)	(Average)	3.0516
	(Standard deviation)	0.1852
(The biggest difference)	(Absolute value)	0.123
	(Positive)	0.082
	(Negative)	0.123
Z (Kolmogorov-Smirnov statistics)		1.107
(Significance level)		0.172

Assessing the importance of dimensions and indicators effective on the implementation of knowledge management

One-way T test has been used to examine the importance of dimensions and effective indicators on KM implementation. Initially, this test was performed for the four dimensions and then for the 28 indicators, as described in the following tables. To do this test, we need a statistical hypothesis for each of the questions that should be said that the statistical hypothesis associated with these common questions is as follows:

H0: 3> μ (representing the contradiction of the claim)
H1: ≥3 μ (expressing the research claim that it is important)

Here, each of the dimensions and components mentioned in the questionnaire will be significant if the value obtained in the column for its significant level is less than 0.05 (with a confidence level of 95%).

Table 7: T Test to Measure the Importance of Effective Dimensions on KM Implementation

Components (questions)	Test Value = 3					
	T test	Degrees of freedom	Significance level	95% confidence level		Final result
				Lower limit	Upper limit	
Cultural	14.480	142	.000	.83	1.10	
Peripheral	9.892	142	.000	.66	.99	The relevant component is significant (acceptance of H1 hypothesis)
Managerial and strategic	11.089	142	.000	.75	1.08	The relevant component is significant (acceptance of H1 hypothesis)

Organizational resources and talents	9.364	142	.000	.64	.98	The relevant component is significant (acceptance of H1 hypothesis)

The results of the above table indicate that all dimensions are important and significant, since in all cases the columns of the significant level column are less than 5% (error level). Therefore, these dimensions can be considered as factors influencing the effective implementation of knowledge management in knowledge-based enterprises.

Table 8: T test to measure the components affecting KM implementation

Components (questions)	Test Value = 3					
	T test	Degrees of freedom	Significance level	95% confidence level		Final result
				Lower limit	Upper limit	
Question 1	10.792	142	.000	.71	1.03	The relevant component is significant (acceptance of H1 hypothesis)
Question 2	12.653	142	.000	1.273	2.292	The relevant component is significant (acceptance of H1 hypothesis)
Question 3	13.920	142	.000	1.832	2.893	The relevant component is significant (acceptance of H1 hypothesis)
Question 4	9.319	142	.000	.59	.91	The relevant component is significant (acceptance of H1 hypothesis)
Question 5	10.057	142	.000	.68	1.01	The relevant component is significant (acceptance of H1 hypothesis)
Question 6	12.657	142	.000	.82	1.12	The relevant component is significant (acceptance of H1 hypothesis)
Question 7	17.951	142	.000	1.01	1.27	The relevant component is significant (acceptance of H1 hypothesis)
Question 8	11.577	142	.000	.76	1.07	The relevant component is significant (acceptance of H1 hypothesis)
Question 9	6.523	142	.000	.39	.73	The relevant component is significant (acceptance of H1 hypothesis)
Question 10	14.669	142	.000	2.087	3.159	The relevant component is significant (acceptance of H1 hypothesis)
Question 11	7.047	142	.000	.45	.81	The relevant component is significant (acceptance of H1

						hypothesis)
Question 12	10.607	142	.000	.69	1.01	The relevant component is significant (acceptance of H1 hypothesis)
Question 13	12.018	142	.000	.79	1.10	The relevant component is significant (acceptance of H1 hypothesis)
Question 14	12.545	142	.000	.81	1.11	The relevant component is significant (acceptance of H1 hypothesis)
Question 15	14.731	142	.000	1.929	2.970	The relevant component is significant (acceptance of H1 hypothesis)
Question 16	18.714	142	.000	.99	1.22	The relevant component is significant (acceptance of H1 hypothesis)
Question 17	17.313	142	.000	1.03	1.30	The relevant component is significant (acceptance of H1 hypothesis)
Question 18	13.733	142	.000	.85	1.13	The relevant component is significant (acceptance of H1 hypothesis)
Question 19	14.902	142	.000	.92	1.21	The relevant component is significant (acceptance of H1 hypothesis)
Question 20	12.805	142	.000	.81	1.11	The relevant component is significant (acceptance of H1 hypothesis)
Question 21	13.245	142	.000	.79	1.07	The relevant component is significant (acceptance of H1 hypothesis)
Question 22	15.588	142	.000	.91	1.17	The relevant component is significant (acceptance of H1 hypothesis)
Question 23	16.290	142	.000	.86	1.09	The relevant component is significant (acceptance of H1 hypothesis)
Question 24	16.507	142	.000	.89	1.14	The relevant component is significant (acceptance of H1 hypothesis)
Question 25	13.584	142	.000	.85	1.15	The relevant component is significant (acceptance of H1 hypothesis)
Question 26	12.262	142	.132	1.634	-2.743	The relevant component is significant (acceptance of H1 hypothesis)
Question 27	5.575	142	.152	0.587	-1.935	The relevant component is

						significant (acceptance of H1 hypothesis)
Question 28	10.826	142	.221	1.045	-2.114	The relevant component is significant (acceptance of H1 hypothesis)

The results of the table above show that all components except for components 26, 27 and 28 are important and significant. (These components include: the availability of the talents and skills required, the degree of integration and the relationship between the company's different sectors and the amount of attention to training and training of human resources). Because in all cases, the columns of the significant level column are less than 5% (error level).

Ranking Dimensions and Indicators Effective on KM Implementation

In this part of the research, we will list the dimensions and indicators that affect the implementation of knowledge management in knowledge-based enterprises. To do this ranking, the TOPSIS technique has been used to describe the following tables.

Table 9: Ranking effective dimensions on KM implementation in Knowledge-based Enterprises

Option	di+	di-	Ci
A1 cultural factor	0.000031	0.000024	0.443728
A2 environmental factors	0.000024	0.000030	0.552568
A3 Management and Strategic Operations	0.000025	0.000028	0.523345
A4 Source Resources and Organizational Talent	0.000027	0.000027	0.497625

Rating	Ci	Option
1	0.55256837	A 2
2	0.53546238	A 3
3	0.52334521	A 4
4	0.52229078	A1

The results of the table above show that the two environmental and managerial and strategic elements of raw materials have the highest rank in implementation of knowledge management in knowledge-based enterprises, and the cultural dimension has the lowest rank.

Table 10: Ranking of effective components on KM implementation in Knowledge-based Enterprises

Option	di+	di-	Ci
A 1	0.000007	0.000005	0.419627
A 2	0.000006	0.000005	0.534828
A 3	0.000007	0.000005	0.529668
A 4	0.000006	0.000006	0.499040
A 5	0.000005	0.000006	0.550667
A 6	0.000006	0.000006	0.495668
A 7	0.000006	0.000006	0.498611
A 8	0.000005	0.000006	0.545761
A 9	0.000005	0.000006	0.514673
A 10	0.000005	0.000006	0.548426

Rating	Ci	Option
1	0.592793	A 24
2	0.590611	A 12
3	0.567442	A 17
4	0.557607	A 13
5	0.553884	A 15
6	0.550667	A 5
7	0.548689	A 19
8	0.548426	A 10
9	0.545761	A 8
10	0.545126	A 25

A 11	0.000006	0.000005	0.531921	11	0.544592	A 9
A 12	0.000005	0.000006	0.590611	12	0.543802	A 16
A 13	0.000005	0.000006	0.557607	13	0.540543	A 4
A 14	0.000006	0.000005	0.532811	14	0.539708	A 7
A 15	0.000005	0.000006	0.540543	15	0.538667	A 6
A 16	0.000006	0.000006	0.499217	16	0.536721	A 18
A 17	0.000005	0.000006	0.548426	17	0.536399	A 22
A 18	0.000006	0.000005	0.493859	18	0.536278	A 23
A 19	0.000005	0.000006	0.548689	19	0.534828	A 2
A 20	0.000006	0.000005	0.455342	20	0.532811	A 14
A 21	0.000006	0.000005	0.465054	21	0.532377	A 21
A 22	0.000006	0.000006	0.536399	22	0.531921	A 11
A 23	0.000006	0.000005	0.486099	23	0.53142	A 20
A 24	0.000005	0.000006	0.592793	24	0.529668	A 3
A 25	0.000005	0.000006	0.523681	25	0.529118	A 1

The results of the above table show that the components of design and development of multi-function teams, the level of communication with universities and research institutes, and the organizational structure have the highest rank in the implementation of knowledge management in knowledge-based enterprises, and the components of the use of incentives motivation and motivation and entrepreneurial spirit and innovation among employees are the lowest in this regard.

DISCUSSION AND CONCLUSION OF THE RESEARCH

This research was designed and evaluated with the aim of evaluating and influencing the factors affecting the implementation of knowledge management on knowledge-based enterprises with a mixed approach (qualitative and quantitative). First, the factors and factors that affect the implementation of knowledge management were identified based on the review of similar internal and external researches, which included four dimensions of cultural, environmental, managerial and strategic, and organizational talent resources, and 29 indicators related to these four factors were identified. After a Delphi process, an index was deleted and, finally, a quantitative analysis based on these four factors and 28 components. The results of T test showed that all four dimensions are significant and important, but out of 28 indicators, 3 indicators were not significant and not significant. On the other hand, the results of the ranking of the factors affecting the implementation of knowledge management in knowledge-based enterprises indicated that the two environmental and managerial and strategic factors are highest. The findings of the component ranking also showed that the components of design and development of multi-function teams, the level of communication with universities and research institutes and the organizational structure have the highest rank in the implementation of knowledge management in knowledge-based enterprises, and therefore the provision of solutions And practical suggestions for effective and successful management of knowledge in the enterprises under study should be done according to the above findings. The findings are consistent with the findings of Lee and Lee (2010), Valmohammadi (2010), Wong (2005) and Haghi et al. (2014), and the dimensions and

components of this study were also effective in the studies. Finally, it should be noted that this research has limitations and problems of lack of acceptance and some managers' responses to the questionnaires; some respondents misunderstanding in relation to the questions raised in the questionnaire can be counted. It is also suggested for future research that the present research is conducted on a large scale among knowledge-based enterprises in the country and its results are compared with findings from related industries and large enterprises.

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