



Designing a Human Resources Competency Model in the Age of Digital Transformation

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Purpose: The current study was conducted with the aim of designing a human resource competency model in the age of digital transformation.

Methodology: This study is applied-developmental in terms of purpose. Also, it is a developmental and exploratory sequential type, and the present study is qualitative in terms of data type. The statistical population of this study is made up of experts and specialists who are aware of the subject of the study and specialists in Mobile Communication company of Iran (IR-MCI) and 20 people were selected as a sample using the targeted sampling method. In this study, library and field methods were used to collect information. In this study, the method of text analysis as well as interviews and Delphi were used for data analysis.

Findings: The results showed that the competency of digital managers includes 7 components of individual factors, organizational factors, culture of change, digital attitude, communication factors, leadership and management, and technical and specialized factors.

Conclusion: Based on the results, there is a significant correlation between all components. The results also showed that the study model has the required validity.

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1. Introduction

In the digital age, due to the emergence of new technologies, the traditional beliefs of business have fundamentally changed. Organizations have only one way forward and that is to keep pace with the existing changes; Otherwise, they will be eliminated from the competition and completely disappear from the scene of existence. Transformational technologies have marked the digital transformation of business, and digital transformation has entered the business literature as a concept (Nouri et al., 2018). In the last decade, the number of companies that have developed the concept of digital transformation with their own actions has been increasing. Digital transformation involves not only the use of new technologies (e.g. advanced analytics, machine learning, artificial intelligence applications, Internet of Things), but also changes in core business elements, including strategy, business model, business processes and Work also includes organizational structures and organizational culture. If managed successfully, digital transformation can lead to business process optimization and better organizational performance. Also, the introduction of new business models and the development of digital products and services will transform the industry (Vuksik et al., 2018). Today, no individual, business, industry, and even any country can achieve success and sustainable development without effective use of information technology, especially without paying serious attention to new technologies of the fourth generation and taking action for digital transformation (Linde et al., 2021). Digital transformation has fundamentally changed the nature of work, organizational boundaries and employee responsibilities in business (Rahmati Kohrorudi et al., 1400). Digital transformation as a new technical-management concept has become a macro trend in modern organizations (Keshavarz et al., 2018).

Meanwhile, managers and employees of every organization always pay attention to the important issue of how to increase the productivity of human resources in the organization. Solutions have been provided in this field. The amount of time, money and facilities that organizations spend in this way shows the importance of developing human resources and increasing the organization's capabilities. On the other hand, the vitality and dynamism of any organization requires continuous and permanent innovation and changes in it (Sepahvand et al., 2016). But we cannot ignore the fact that all the above cases come to reality only when the presumption of competence is observed. Competence is one of the most important elements and factors of human resource productivity of organizations in today's competitive world (Babaei Arbusara et al., 1400).

Promoting the competence of the interactive process paves the way for the continuous development and excellence of professional identity, ethics and professional commitment, specialized knowledge, educational knowledge and attitude, educational skills of employees and managers. In fact, competence is a set of actions and activities that are carried out in the form of long-term plans with the aim of overcoming work defects. In this process, improving competence and empowering people is out of the form of formal and planned courses and actions and is more informal, flexible and continuous. A professional employee is someone who has work competence in several different aspects, these people must be emotional, physical, practical, political, behavioral, experiential, historical, cultural, spiritual and a professional person and have a supportive vision so that they can cause to create sufficient motivation in learners (McLeod et al., 2017). Nevertheless, the competence of the employees in the period that is associated with rapid technological changes is an important matter that can be investigated.

On the other hand, not only the capital market has suffered a historic drop in stock value, but companies have to dramatically change their performance in the midst of a social shutdown. In the meantime, Mobile Communication company of Iran (IR-MCI) is not exempt from this event which puts a huge pressure on the human resources and information technology departments of the organization to adapt their technical capacities, work policies and organizational processes to such a new environment. Since Mobile Communication company of Iran (IR-MCI) is struggling to implement the necessary training for its workforce in the use of digital tools, their leaders are under the microscope of digital readiness to do these things. Therefore, in this study, we aim to investigate and present the human resources competency model in the

age of digital transformation. In fact, in the current study, the author will try to answer the basic question that what human resource competency model can be presented for Mobile Communication company of Iran (MCI) in the age of digital transformation?

2. Methodology

The purpose of this study is to design a model for human resource competence in the era of digital transformation of Mobile Communication Company of Iran (Appendix 1). The purpose of applied study is to develop applied knowledge in a specific field. In other words, these studies are used to meet human needs by using the cognitive background and information provided by basic studies. On the other hand, development study is a process that is carried out in order to formulate and determine the suitability of a product. Therefore, the current study is applied-developmental in terms of purpose. This study is of sequential-developmental and exploratory type, and qualitative in terms of the type of data. In this study, the qualitative method of thematic analysis is used to build the model. In this study, field and library methods were used to collect the required data.

The statistical population of the study is made up of experts and specialists who are aware of the study topic and specialists in Mobile Communication Company of Iran (MCI) as well. In this study, non-probability sampling methods were used in the form of snowball and sampling continued until theoretical saturation. In this regard, 20 experts were selected as a quantitative sample. These people have the following conditions:

- Having research in the field of human resources and digital developments
- Having at least 5 years of management experience
- Having postgraduate education and more

Table 1: Demographic information of the participants

variable	class	Abundance	variable	class	Abundance	variable	class	Abundance
The place of service	managers and senior experts of Mobile Communication Company of Iran	15	education	PhD	17	age	Lower than 39 years	5
	Managers and experts in the communication industry	3		Master's degree	3		40 to 45	9
							46-50	3
							Above 50	3
Professors of management and organizational behavior		2	gender	Female	6	work experience	Under 15 years	1
				male	14		16-20 years	7
							Over 20 years	12

Structured interviews were used in this study. After making the necessary arrangements, the researcher attended the interviewee's workplace and recorded the interview conversations using a tape recorder and with the permission of the interviewee to extract the codes, and of course this was done after each interview, and the researcher in the interview 21 and 22 found that a new code was not added to the previous codes and therefore did not continue the interview process with the next interviewee. In order to ensure the validity of the tool and to ensure the accuracy of the findings from the researcher's point of view, valuable opinions of

professors familiar with this field and university experts who were experts and knowledgeable in this field were used. Also, at the same time, help was taken from the participants in analyzing and interpreting the data. In the current study, retest reliability and intra-subject agreement method were also used to calculate the reliability of the conducted interviews. In this study, the reliability coefficient between codifications done was 79%, which indicates its acceptability. In the data analysis, exploratory coding system using Delphi method was also used to identify the components.

3. Findings

In this study, the dimensions, components and indicators of human resource competence in the age of digital transformation in Mobile Communication company of Iran (Appendix 1) have been identified. In order to find the answer to this question, the sources were searched. The results of examining the theoretical foundations and background of the study are as described in the following table:

Table 2: Components and indicators extracted from the literature

dimentions	Component	Indicator	source
Human resource competence in the digital age	Authentic pragmatist	Structural factors	Abedi Ardakani et al. (2021)
		Adding value and abandoning fault finding	Bongiorno et al
		Goals and standards	Hosseinpour Shahriari and Farrokhi(2016)
		Support activities	Hosseinpour Shahriari and Farrokhi(2016)
		Background	Abedi Ardakani and colleagues (2021)
		Strategy	Kheder and Shami Zanjani (2019)
		Synchronization of technical and social resources	Kheder and Shami Zanjani (2019)
	Individual factors	Behavioral	Abedi Ardakani and colleagues (2021)
		Technological intelligence	Led by Dehkordi and colleagues (2021)
		social intelligence	Led by Dehkordi and colleagues, (2021)
		Psychological Empowerment	Babaei et al(2017) .
		Emotional Intelligence	Led by Dehkordi et al. (2021), Babaei et al .(2018)
		Creativity	Babaei et al. (2017), Crawford and Butler(2021)
		Competitive insight	Led by Dehkordi and colleagues (2021)
	Technical and specialized factors	Technical and specialized skills	Kaviani et al. (2019), Khawaja Ali Jahan Tighi and Abdullahi(2019)
		Entrepreneurial skills	Ankhjav et al(2021) .
		Commitment to digitization	Gupta et al(2021) .
	Change management and culture	User-centricity and cultural insight	Led by Dehkordi and colleagues (2021)
		Agility	Crawford and Butler (2021), Linde et al(2021) .

	Organizational culture for process digitization	Gupta et al(2021) .
	Continuous learning	van den Berg et al(2020) .
	change-oriented	Kane et al(2019) .
	Flexibility	Hosseinpour Shahriari and Farrokhi(2016)
	Development of functional skills	Gupta et al(2021) .
	Cultural	Kheder and Shami Zanjani (2019)
Leadership and management	Leadership of organizational learning and innovation	Led by Dehkordi and colleagues (2021)
	Decisive and pragmatic leadership	Kane et al(2019) .
	Setting ambitious and challenging goals	Mofart and Swaminathan (2018)
	Inspiration and motivation for all people	Mofart and Swaminathan (2018)
	Establishing persuasive communication in line with the goals of digital transformation	Mofart and Swaminathan (2018)
	Senior management support	Gupta et al(2021) .
	Digital leadership	Baslova et al(2022) .
	Leadership	Kheder and Shami Zanjani (2019)
Digital attitude	Technology	Kheder and Shami Zanjani (2019)
	Convincing people for digital transformation in the organization	Mofart and Swaminathan (2018)
	Understanding digital technology	Kane et al(2019) .
	Show opportunities and challenges in an attractive way to create positive energy	Bongiorno et al(2018) .
	Forward visioning	Kane et al(2019) .
	Digital innovation	Baslova et al(2022) .
	Digital skills	Ankhjav et al(2021) .
	Positive learning orientation	Crawford and Butler(2021)
Job factors	Job motivation	Babaei et al. (2017), Kaufman et al(2021) .
	Cognitive	Khawaja Ali Jahan Tighi and Abdullahi(2019)
	Attitudinal	Khawaja Ali Jahan Tighi and Abdullahi(2019)
Organizational factors	Job	Kheder and Shami Zanjani (2019)
	Strategic alignment	Nicholas et al(2021) .
	Cultivating positive organizational practices	van den Berg et al(2020) .
	Brand	Kheder and Shami Zanjani (2019)
	The physical environment	Kheder and Shami Zanjani (2019)

Communication factors	Organizational atmosphere	Babaei et al(2017) .
	Participation	Hosseinpour Shahriari and Farrokhi(2016)
	Being a team and teamwork	Hosseinpour Shahriari and Farrokhi (2016), Kane et al . (2019)
	Connections	Hosseinpour Shahriari and Farrokhi(2016)
	Digital interaction with customers	Baslova et al. (2022), Lindh et al(2021) .
	Digital Customer Experience Management	Baslova et al(2022) .
	self-concept	Kaviani et al(2019) .
	Consciousness	Crawford and Butler(2021)
	Human resource relations skills	Ankhjav et al(2021) .
	Stakeholder relationship management	van den Berg et al(2020) .
	Establishing a proper balance between control and innovation by emphasizing the promotion of innovation	Bongiorno et al(2018) .

Next, the interview technique was used to collect experts' opinions. In this regard, according to the theoretical framework of the study, questions were asked to the experts as follows:

What is your definition of competence?

What competencies are considered for employees in the digital age?

What skills should employees have in the digital age?

In your opinion, what are the individual digital competencies?

In your opinion, what are the technical and specialized skills of digital?

In your opinion, what are the digital organizational competencies?

After raising the questions, the experts raised the following indicators in response to the questions.

Table 3: Indicators extracted from the interview

Indicator	Interviewee code
latent talents of people in terms of behavior (soft competence)	I2.I8.I9.I6
People's expertise (competency set)	I3.I5
Talents that turn into expertise and professionalism	I7
Communication skills	I4.I9.I13.I8
Introversion	I16.I8
Proper understanding of virtual space and applications	I17.I15
Having ideas for improvement and progress	I20.I19.I11
Mastery of technical tools related to the job	I3.I4.I5
Ability to work with computers and smart phones	I6.I1
Self Confidence	I12.I7.I19
Leadership and acceptance of teamwork	I13
the sense of being seen by people (being understood)	I15.I16.I2
Predictable characteristics of people	I12.I11
Emotional Intelligence	I10.I6.I18.I13
High flexibility	I20.I8.I14
Ability to analyze events	I7.I5.I6
Distinguishing right from wrong	I9.I8.I16

Identifying the causes of events	I17.I20
The power of critical thinking	I3.I13.I15
Mastery of world languages	I16.I15.I7
Has a systemic approach	I18.I20
Knowing new tools and moving towards learning	I3.I2
Foresight	I1.I9.I15
risk taking	I14
Ability to persuade people	I9
Motivate others	I20.I14.I15
A forward-looking view	I12.I9
Programming and coding ability	I8
up to date	I11.I15
ready for change	I3.I8.I16

As it can be seen, 30 codes were extracted from interviews with experts. In order to achieve the final and integrated model, the codes extracted from the text analysis process as well as the interviews were provided to the experts in the form of a Delphi questionnaire being asked to refine the codes. In this regard, codes that scored less than 4 were excluded from the Delphi round. Also, many codes were modified by experts.

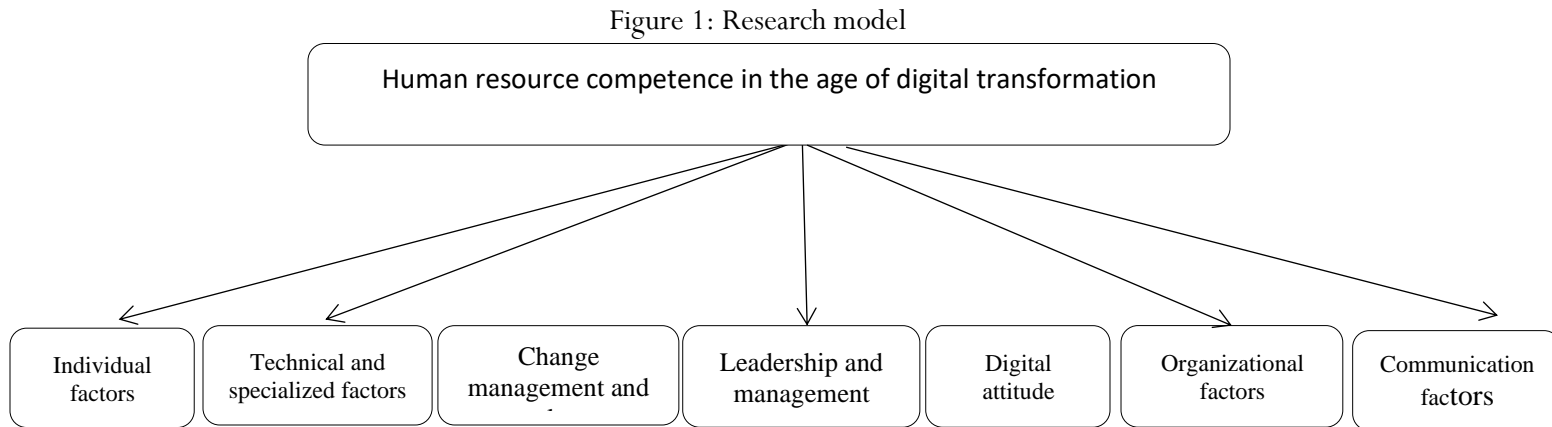
In the first round of Delphi, 36 indicators scored less than 4. As a result, these indicators were not included in the second round of Delphi, and one indicator was modified from the experts' point of view. In the second round of Delphi, no indicators were eliminated and all indicators scored above 4. To ensure the finalization of the indicators, the Delphi process was repeated in the third round. Finally, relying on the opinions of experts, the final codes were categorized and presented in the form of the table below.

Table 4: Codes extracted from the Delphi process

Component	Indicator	Source	Interviewee code
Individual factor	risk taking		I14
	Predictable characteristics of people		I12.I11
	latent talents of people in terms of behavior (soft competence)		.I8.I9.I6
	Ability to analyze events		I7I5.I6
	Self Confidence		I12.I7.I19
	social intelligence	Led by Dehkordi and colleagues (2021)	
	Psychological Empowerment	Babaei et al(2017) .	
	The power of critical thinking		I3.I13.I15
	Emotional Intelligence	Led by Dehkordi et al. (2021), Babaei et al .(2018)	I10.I6.I18.I13
	Creativity	Babaei et al. (2017), Crawford and Butler(2021)	
	Technical and specialized factors	Distinguishing right from wrong	I9.I8.I16
	Mastery of technical tools related to the job		I3.I4.I5
	Talents that turn into expertise and professionalism		I7
	Mastery of world languages		
	Programming and coding ability		I8
Change management and culture	Entrepreneurial skills	Ankhjav et al(2021) .	
	User-centricity and cultural insight	Led by Dehkordi and colleagues (2021)	
	systematic approach		I18.I20
	up to date		I11.I15

		Agility	Crawford and Butler (2021), Linde et al(2021) .	
		Continuous learning	van den Bergh et al. (2020), Krafur and Butler(2021)	
		ready for change	Kane et al(2019) .	13.18.116
		Flexibility	Hosseinpour Shahriari and Farrokhi(2016)	120.18.114
		Development of functional skills	Gupta et al(2021) .	
Leadership management and		Decisive and pragmatic leadership	Kane et al(2019) .	
		Setting ambitious and challenging goals	Mofart and Swaminathan(2018)	
		Inspiration and motivation for all people	Mofart and Swaminathan(2018)	
		Establishing persuasive communication in line with the goals of digital transformation	Mofart and Swaminathan(2018)	
		Senior management support	Gupta et al(2021) .	
		Digital leadership	Baslova et al(2022) .	
Digital attitude		Proper understanding of virtual space and applications		117.115
		Commitment to digitization	Gupta et al(2021) .	
		Technological intelligence	Led by Dehkordi and colleagues(2021)	
		Ability to work with computers and smart phones		16.11
		Convincing people for digital transformation in the organization	Mofart and Swaminathan(2018)	
		Knowing new tools and moving towards learning	Kane et al(2019) .	13.12
		Show opportunities and challenges in an attractive way to create positive energy	Bongiorno et al(2018) .	
		Digital innovation	Baslova et al(2022) .	
		Digital skills	Ankhjav et al(2021) .	
Organizational factors		Having ideas for improvement and progress		120.119.111
		A forward-looking view	Kane et al(2019) .	
		the sense of being seen by people (being understood)		115.116.12
		Organizational culture for process digitization	Gupta et al . (2021)	
		Cultivating positive organizational practices	van den Berg et al . (2020)	
		Brand improvement	Kheder and Shami Zanjani(2019)	
		The physical environment	Kheder and Shami Zanjani(2019)	
		Organizational atmosphere	Babaei et al(2017) .	
Communication factors		participation	Hosseinpour Shahriari and Farrokhi(2016)	
		Leadership and acceptance of teamwork	Hosseinpour Shahriari and Farrokhi (2016), Kane et al . (2019)	113
		Ability to persuade people		19
		Motivate others		120.114.115
		Digital interaction with customers	Baslova et al. (2022), Lindh et al . (2021)	
		Communication skills	Ankhjav et al(2021) .	14.19.113.18
		Stakeholder relationship management	van den Berg et al(2020) .	

Based on the surveys, the study model is as follows:



To check the final model, a model assessment questionnaire was prepared to determine the degree of fit of the model in the form of a five-level spectrum and provided to 30 experts in this field. Then, the collected data was evaluated using the one-sample t-test, the results of which can be seen in the following table:

Table 5: T-test results of a sample to determine the degree of suitability of the proposed model to present the final model

Expected mean = 3							
Row	Questions	Average	standard deviation	t	df	Sig.	
1	adaptation	Are concepts generated from the reviewed data?	3.68	1.251	9.45	29	0.000
2	comprehensibility	Are the concepts recognized and linked together in a systematic way?	3.84	1.225	11.90	29	0.000
3		Are the categories well formulated?	3.66	1.338	8.62	29	0.000
4	generalizability	Has the theory been explained in such a way that it takes into account changing conditions?	3.8	1.257	11.05	29	0.000
5		Are the macro conditions that may affect the studied phenomenon explained?	3.7	1.185	10.27	29	0.000
6	Control	Do the theoretical findings seem important?	3.64	0.885	12.64	29	0.000

The results of the above table show:

Adaptation

In matching the model, the calculated t statistic (9.45) is significant at the 0.01 level. The comparison of the average of this part of the model (3.68) with the expected average shows that the adaptation of the model is valid according to experts having been confirmed with 99% confidence.

Comprehensibility

In the understanding of the model, the calculated t statistic (11.82) is significant at the 0.01 level. Comparing the average of this part of the model (3.75) with the expected average shows that the model's

comprehensibility is valid from the point of view of experts and it has been confirmed with 99% confidence. Regarding comprehension questions, the t statistic calculated for both questions is significant at the 0.01 level and the average observed in each of these two questions is higher than the expected average (3); Therefore, according to experts, it is considered part of the understanding of the model.

Generalizability

In the generalizability of the model, the calculated t statistic (11.82) is significant at the 0.01 level. Comparing the average of this component of the model (3.75) with the expected average shows that the generalizability of the model is valid according to experts and it has been confirmed with 99% confidence. Regarding generalizability questions, the t statistic calculated for both questions is significant at the 0.01 level and the average observed in each of these two questions is higher than the expected average (3); Therefore, according to experts, it is considered part of the generalization ability of the model.

Control

In model control, the calculated t statistic (12.64) is significant at the 0.01 level. Comparing the average of this part of the model (3.64) with the expected average shows that the controllability of the model is valid according to experts and it has been confirmed with 99% confidence. Regarding the control questions, the t statistic calculated for both questions is significant at the 0.01 level and the average observed in each of these two questions is higher than the expected average (3); Therefore, according to experts, it is considered part of model control.

4. Discussion

As it was observed, the current study was conducted with the aim of designing the human resource competency model in the age of digital transformation. In this regard, based on the literature review, a model was presented. Based on the results obtained, human resource competence in the age of digital transformation has 7 components as follows:

Individual factors: risk-taking, predictable characteristics of people, hidden talents of people in terms of behavior (soft competence), ability to analyze events, self-confidence, social intelligence, psychological empowerment, critical thinking power, emotional intelligence and creativity. Managing and monitoring the digital transformation of an organization requires new management methods, new capabilities and competencies for leadership. An organization can successfully establish digital governance at the organization level if it can create a forward-looking, comprehensive and innovative plan for survival in the digital era in the organization. A digital transformation ruler determines, directs and monitors the organization's digital transformation actions according to the duties and competencies needed to influence this responsibility, and aligns the direction of activities with the organization's overall goals. The presence of digital governance will prevent the wastage of resources and increase the effect of digital transformation measures. The responsibilities of digital transformation are so diverse and complex that a senior manager who also has other responsibilities cannot be expected to fulfill them. For example, the main task of the chief information officer is to manage information technology operations and upgrade the platforms and system infrastructure in the organization; But digital transformation does not only mean the digitization of the organization's resources, but its result should be seen in profitability and innovation in organizational products. Also, the skills needed by a digital transformation officer are different from those of IT managers. In this regard, the leadership of Dehkordi et al. (1400) in their study pointed to emotional intelligence and social intelligence as an important characteristic of a digital leader. Also, Babaei et al. (2017) consider psychological empowerment as an important factor in the competence of digital managers.

Technical and specialized factors: distinguishing right and wrong, mastery of job-related technical tools, talents that turn into expertise and professionalism, mastery of world languages, programming and coding

skills, and entrepreneurial skills. Managers active in digital fields often need to be aware of trends and innovations in this field. Many experts in the field of evaluating the status of digital managers emphasize their skills for accurate and 24-hour business management. Today, many digital managers have little control over the state of their business in practice. The reason for this is the use of tools with artificial intelligence. Monitoring the status of sales, marketing and coordinating with market needs takes a lot of time. The use of digital tools with artificial intelligence significantly saves the time and money of digital managers. For this very reason, most digital managers no longer pay attention to details in the field of business. In this regard, Ankhjav et al. (2021) pointed to entrepreneurial skills as a specialized feature in senior managers.

Change and culture management: user-centeredness and cultural insight, systems approach, up-to-dateness, agility, continuous learning, readiness for change, flexibility and development of functional skills. A chief digital officer will only be useful in an organization that has a serious commitment to digital transformation, and the various costs that come with it. Before appointing this organizational post, it is necessary to ensure the coordination and integrity of the entire organization. Due to the change in the structure of the organization, the chain of command will undergo a change with the beginning of the digital journey. Willingness to innovate in the field of business is the most important characteristic of digital managers. They are always looking for new ways to do business. This will cause a lot of problems for them. Searching for new conditions and positions is one of the most important characteristics of such managers. Many traditional managers, after finding ways to operate and organize business, do not seek to change them. This will bring many problems for the future of any business. When there is no change, the possibility of attracting the attention of the target audience will also disappear. The need to be aware of new business conditions is important for every digital manager. The reason for this is the rapid changes in the digital world, compared to traditional businesses, so any stagnation and lack of innovation in the field of digital businesses will mean the end of business success. Crafor and Butler (2021), Linde et al. (2021) in a similar study, introduced agility as one of the most important characteristics of digital senior managers. Van den Berg et al. (2020), Krafur and Butler (2021) also mentioned continuous learning. Kane et al. (2019) also mentioned readiness for change. Hosseinpour Shahriari and Farrokhi (2016) also mentioned flexibility.

Leadership and Management: Decisive and pragmatic leadership, setting ambitious and challenging goals, inspiring and motivating all people, persuasive communication in line with digital transformation goals, senior management support and digital leadership. Today, the professional leadership and sustainability of organizations depends on the existence of managers and specialists who have different degrees of competencies that are constantly changing due to the successive technological advances required for all types of organizations. One of the main reasons for the failure of digital transformation projects is the lack of clear governance of this phenomenon in the organization. Many believe that the "Chief Digital Manager" is an effective answer to this organizational need and the existence of this role has a significant impact on the success of such projects. In the digital age, the chief information officer is expected to participate in the strategic areas of the organization's decisions and devote more time to investigating innovations and value creation for the organization. But the management of information technology resources of the organization is so broad that one cannot expect an organizational official (such as the chief information officer) to be responsible for the digital transformation of the organization in view of the digital age. Due to the inability of the chief information officer (or any other chief officer) to lead the digital transformation in the organization, the CEO should choose a new person for this purpose. There is no uniform definition for a chief digital officer in an organization. A chief digital officer is generally a business strategist which has a detailed understanding of the effects of digital technologies at the organization level. "Hafek and colleagues" consider the chief digital officer responsible for the transformation of the organization through digital technologies. He is responsible for the application of digital technologies in issues that flow from inside the organization to outside it (such as products and services). In general, he is responsible for operationalizing the organization's digital strategy. In

this regard, Kane et al. (2019) focused on assertive leadership for digital managers in their study. Meffert and Swaminathan (2018) pointed out factors such as setting ambitious and challenging goals, inspiring and motivating all people, and establishing persuasive communication in line with the goals of digital transformation. Gupta et al. (2021) also emphasized the support of the top manager.

Digital attitude: proper understanding of virtual space and practical applications, commitment to digitization, technological intelligence, skill in working with computers and smart phones, persuading people for digital transformation in the organization, recognizing new tools and moving towards learning, presenting opportunities and challenges in an attractive way to create positive energy, digital innovation and digital skills. Digital entrepreneurs and managers never think about the final result of their work. They consider long-term goals as well as short-term goals, so their main priority is to achieve success in relation to short-term goals. The main advantage of this will be to reduce the constant pressure on work teams. The interesting thing is that when the work pressure on company members decreases, their work quality will increase significantly. This means the possibility of having a better impact on employees and pursuing short-term goals. Designing short-term goals is often more difficult than designing long-term goals. The reason for this is the need to coordinate short-term goals with long-term goals. If businesses do not pay attention to this important point, all their business activities and efforts will remain fruitless. This is very important from the point of view of digital entrepreneurs. That's why often Sometimes they design short-term goals with great precision. In this way, achieving long-term goals is achieved indirectly and as a result of pursuing short-term goals. In this regard, Gupta et al. (2021) referred to the commitment to digitization. Dehkordi et al. (1400) also emphasized technological intelligence. Meffert and Swaminathan (2018) also emphasized on persuading people for digital transformation in the organization. In a similar study, Kane et al. (2019) pointed to the recognition of new tools and moving towards learning. Bongiorno et al. (2018) also mentioned presenting opportunities and challenges in an attractive way to create positive energy.

Organizational factors: having ideas for improvement and progress, a forward-looking view, a sense of people being seen (being understood), organizational culture for digitizing the process, fostering positive organizational practices, improving the brand name, physical environment and organizational atmosphere. Maybe at first, many business owners, upon hearing the term digital transformation or digitalization, find this mentality that they are only going to use new technologies, software and processes that are more efficient than traditional methods in their business. But the fact is that digitalization is a new and innovative solution that actually targets the core of the business. When an organization or a manager decides to lead their business towards digital transformation, they should remember that there are going to transform many thoughts, processes, actions, values, goals, etc. using a suitable digital thinking, which will ultimately have a direct impact on work output, cost, time, and relationships with its customers. In this regard, Kane et al. (2019) emphasized a forward-looking perspective. Also, Gupta et al. (2021) mentioned organizational culture for process digitalization. Van den Berg et al. (2020) also mentioned the cultivation of positive organizational practices. Kheder and Shami Zanjani (2019) also pointed out the improvement of brand name and organizational atmosphere in their study.

Communication factors: participation, leadership and acceptance of teamwork, ability to persuade people, motivate others, digital interaction with customers, communication skills and management of relations with stakeholders. Forming work teams is one of the most important points for businesses. Digital managers always have a high skill to mix the right employees and create the right teams. Often, traditional managers emphasize the same skills of team members. This results in the formation of a homogeneous team of employees. Entrepreneurs and digital managers are at the opposite end. They constantly pay attention to the need to diversify the skills of team members in an effort to influence the target audience. This leads to the formation of teams with significant differences in terms of skills. Every successful work team must have

diverse skills. The traditional view in this direction is to attract employees with a wide range of skills in different fields. Today, work teams are mostly composed of people with specialized and diverse skills. The advantage of this is the possibility of managing tasks separately and with high expertise. In this regard, Hosseinpour Shahriari and Farrokhi (2016), Kane et al. (2019) pointed out leadership and acceptance of teamwork. Baslova et al. (2022), Linde et al. (2021) also emphasize digital interaction with the customer. Ankhjav et al. (2021) also emphasized communication skills in their study. Van den Berg et al. (2020) also proposed managing relations with stakeholders in this regard.

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References

- Abedi Ardakani M, Sarlak M, Darvish H, Farati H. (2022). Designing the model of employee competency development using the evaluation and development center. *Human Capital Empowerment Journal*. 5(1). [persian]
- Babaei Arbusara I, Abbaspour A, Asadzadeh H, Delavari A, Abdullahi H. (2021). Determining the contribution of individual, psychological and organizational factors in predicting the competence of Karaj Municipality employees. *Management Research in Iran*. 22(1): 1-23. [Persian]
- Bongiorno G, Rizzo D, Vaia G. (2018). CIOs and the digital transformation: A new leadership role. *CIOs and the Digital Transformation*. 1-9.
- Busulwa R, Pickering M, Mao I. (2022). Digital transformation and hospitality management competencies: Toward an integrative framework, *International Journal of Hospitality Management*. 102.
- Crawford J, Butler-Henderson K. (2021). Digitally empowered workers and authentic leaders: The capabilities required for digital services. In *Research Anthology on Digital Transformation, Organizational Change, and the Impact of Remote Work* (pp. 1616-1637). IGI Global.
- Enkhjav T, Szira Z, Varga E. (2021). Reconsidering HR competency models: entrepreneurship and digital competency. *Technology transfer: innovative solutions in Social Sciences and Humanities*. 12-14.
- Gupta A, Singh RK, Gupta S. (2021). Developing human resource for the digitization of logistics operations: readiness index framework. *International Journal of Manpower*.
- Hossein Pourshahriari M, Farrokhi A. (2016). Preparing a tool for measuring the competence of employees and estimating its reliability and validity (Study case: Ansar Construction Company of Tehran Province). *Management and Entrepreneurship Studies*. 3(2): 136-149. [Persian]
- Kane GC, Palmer D, Phillips AN, Kiron D. (2019). Is your business ready for a digital future? *MIT Sloan Management Review*. 56(4): 37-44.
- Kaviani H, Mirspasi N, Memarzadeh Tehran G. (2019). Designing an employee competency model in the field of cyber security. *Interdisciplinary Studies of Strategic Knowledge*. 10(41): 273-298. [Persian]
- Keder Y, Shami Zanjani M. (2019). Factors affecting the formation of employees' digital experience. *Human Resource Studies*. 10(3): 23-50.
- Keshavarz H, Nowrozi Y, Hossein Nourafroz A. (2018). Workforce Competencies Based on Digital Transformation Components and 21st Century Skills: The Needs of Digital Academic Organizations. The second interactive information retrieval conference, Tehran. [Persian]
- Khawaja Ali Jahan Tighi Z, Abdullahi M. (2019). Presenting the competency model of Payam Noor University employees with foundational data theory methodology. *Education Management and Perspectives*. 2(5): 43-68. [Persian]
- Linde L, Frishammar J, Parida V. (2021). Revenue Models for Digital Servitization: A Value Capture Framework for Designing, Developing, and Scaling Digital Services. *IEEE Transactions on Engineering Management*.
- McLeod BD, Sutherland KS, Martinez RG, Southam-Gerow MA. (2017). Identifying common practice elements to improve social, emotional, and behavioral outcomes of young children in early childhood classrooms. *Prevention Science*. 18(2): 204-213.

- Meffert J, Swaminathan A. (2018). Leadership and the urgency for digital transformation. *Leader to Leader*. 88: 44-49.
- Nicolás-Agustín Á, Jiménez-Jiménez D, Maeso-Fernandez F. (2021). The role of human resource practices in the implementation of digital transformation. *International Journal of Manpower*.
- Nouri M, Shah Hosseini MA, Shami Zanjani M, Abedin B. (2018). Designing a conceptual framework for leadership of digital transformation in Iranian organizations. *Management and planning in educational systems*. 23: 211-242. [Persian]
- Rahmati Kohrorudi S, Shams Morkani G, Shami Zanjani M, Abulghasemi M. (2021). Providing a framework to explain the competencies of digital leaders with metacombination method. *Human resource management research*. 13(1): 43. [Persian]
- Sephond R, Arefnejad M, Shariatnejad A. (2016). Identifying and prioritizing factors causing organizational inertia using the fuzzy Delphi method. *New Researches in Decision Making*. 2(1): 95-118. [Persian]
- Van den Berg M J, Stander M W, Van der Vaart L. (2020). An exploration of key human resource practitioner competencies in a digitally transformed organisation. *SA Journal of Human Resource Management*. 18: 13.
- Vukšić V B, Ivančić L, Vugec DS. (2018). A preliminary literature review of digital transformation case studies. *International Journal of Computer and Information Engineering*. 12(9): 737-742.