

International Journal of Knowledge Processing Studies (KPS)



Homepage: <http://kps.artahub.ir/>



ORIGINAL RESEARCH ARTICLE

Presenting a Data-Driven Exploratory Model of Employees' Behavioral Competence with the Approach of Information and Knowledge of the Work Environment

Iman Abdulhamid Shaukat Murad al-Rubaei¹, Mohammad Reza Dalvi^{2,*}, Ali Hassoun Abbas Fendi al-Tai³, Badri Shahtalebi⁴

¹ PhD Student in Public Administration, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran. imanabdulhamid.sh@gmail.com

² Associate Professor, Department of Management, Dehaghan Branch, Islamic Azad University, Dehaghan, Iran. (Corresponding Author), dr.dalvi2016@gmail.com, 0000-0003-1262-8818

³ Professor, Public Administration, Human Resource Management, Organizational Behavior, Strategic Management, Dashgah, Baghdad, Baghdad School of Management and Economics, Iraq. ali.altae@coadec.uobaghdad.edu.iq

⁴ Associate Professor, Department of Educational Sciences, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran. shahtalebi2005@yahoo.com

ARTICLE INFO

Article History:

Received: 2024-07-29

Revised: 2024-08-10

Accepted: 2024-08-29

Published Online: 2025-03-01

Keywords:

Behavioral Competence of Employees, Information and Organizational Knowledge, Work Environment, Mixed Method.

Number of Reference: 25

Number of Figures: 2

Number of Tables: 9

DOI: 10.22034/kps.2024.474869.1197



ABSTRACT

The purpose is to provide an exploratory data-driven model of employees' behavioral competence with the approach of information and knowledge of the work environment. This research is applied and exploratory, which was conducted qualitatively and quantitatively (mixed) using the methods of data foundation theory and exploratory factor analysis. The research tool (data collection) was a semi-structured interview. Using the grounded theory method, the data obtained from the interviews conducted with 14 employees of the Iraqi Ministry of Islamic Guidance (Baghdad, Diyala, Karbala) were analyzed during three stages of open, central and selective coding. 19 general categories in the form of a paradigm model that these factors include causal conditions (analysis of the environment; management challenge; analysis of employees' behavioral competence), central phenomenon (behavioral competence of employees), underlying conditions (analysis of organizational culture; application of law and policy), intervening conditions (determining Competencies; dimensions of leadership competence; the process of building the behavioral competency model of employees) and strategies (interpersonal skills; communication skills; determining behavioral criteria; evaluation and development of the model; implementation and monitoring) and outcomes (intra-organizational success) ; key competencies; external success). In the quantitative part, the data obtained from the exploratory factor analysis questionnaire were analyzed with the help of spss26 statistical software. The factor loadings of all the items of the standard model are higher than 0.3 and the significance coefficients of the model are all higher than 1.96. ©authors.

► Citation: Shaukat Murad al-Rubaei, I., Dalvi, M., Fendi al-Tai, A., & Shahtalebi, B. (2025). Presenting a Data-Driven Exploratory Model of Employees' Behavioral Competence with the Approach of Information and Knowledge of the Work Environment. *International Journal of Knowledge Processing Studies (KPS)*, 5(1): 104-119. Doi: 10.22034/kps.2024.474869.1197

1. Introduction

Behavioral competence of employees with the approach of information and knowledge in the work environment refers to the abilities and behaviors that employees need to achieve optimal performance and continuous improvement in a knowledge-based work environment. These competencies include the ability to manage knowledge, share information, continuous learning, and optimal use of new technologies. In a work environment where information and knowledge play a vital role in the success of the organization, employees must have the ability to process and analyze data, solve problems creatively, and interact effectively with colleagues and customers. These behaviors help to create a dynamic and innovative environment in which knowledge is used as a valuable resource for decision-making and development of the organization (Abadi Ardakani et al., 2001). In addition, behavioral competencies in information and knowledge-based environments include the ability to adapt to rapid changes and accept new innovations (Antera, 2021). Employees who are successful in these environments usually have high emotional intelligence, time management ability, and strong communication skills (López et al., 2020). They can learn and share new knowledge quickly, foster collaboration across teams, and respond effectively to change. These behaviors not only increase efficiency and productivity in the organization, but also help foster a culture of learning and innovation, which is necessary to compete in today's dynamic and complex markets (Smith et al., 2019). The knowledge of organizational behavior with the orientation of behavioral competence studies and analyzes human behaviors in organizations, with a special focus on the behavioral competencies that employees need to achieve organizational goals (Chitger, 1402). This approach is based on the belief that the behaviors of employees in The work environment can directly affect the performance of the organization. For this reason, identifying and developing

behavioral competencies related to job duties, organizational culture, and strategic goals is of great importance. These competencies can include communication skills, problem solving ability, flexibility, and the ability to collaborate and work in a team. According to this approach, organizations can create a more dynamic and efficient environment by focusing on the development of employees' behavioral competencies (Lee et al., 2013). One of the key aspects in this approach is the importance of recognizing and managing the motivations and individual needs of employees. Organizational behaviorism with the orientation of behavioral competence emphasizes that each person in the organization has a set of motivations, values and priorities that can influence his behavior. By understanding these factors and adapting them to the organization's needs, it is possible to strengthen desirable behaviors and reduce undesirable behaviors. This process involves continuous performance evaluation, providing constructive feedback, and creating opportunities for professional development that allow employees to improve their competencies and thereby contribute to increased productivity and organizational success. In addition, the knowledge of organizational behavior with the orientation of behavioral competence helps organizations to create and strengthen a favorable organizational culture. A culture in which positive behavioral values such as mutual respect, trust, innovation, and commitment to common goals are promoted. This culture can act as a key factor in attracting and retaining talent and encouraging employees to continuously strive to improve and upgrade their skills and competencies (Koenen et al, 2015). As a result, by adopting this approach, organizations can benefit from a committed, skilled and ready workforce to face the challenges ahead, which helps to improve the competitiveness and sustainability of the organization in dynamic and complex markets (Ahmed et al., 2021).

Information and data play a very important role in employee behavior, because these

elements serve as the basis for their decisions, interactions and daily actions (Gómez et al., 2016).

Employees in modern work environments are faced with a large amount of information that must be properly analyzed and used to lead to optimal decisions. Access to accurate and timely information can guide employees' behaviors towards greater effectiveness; For example, accurate and detailed information about projects or customers can help employees work more accurately and make decisions based on real data. It also increases self-confidence and reduces employee stress, because they know exactly what information they are basing their decisions on (Yang, 2017).

Additionally, data can improve employee behavior through continuous feedback and performance metrics. By using data analysis, managers can identify the strengths and weaknesses of employees and provide accurate and effective feedback (Müller et al., 2017).

These feedbacks can help employees improve their skills and achieve more effective and efficient work methods. Also, data can play a key role in determining individual and team goals and guide employees to achieve these goals. In general, information and data play a vital role in shaping and guiding employee behavior and can be used as a tool to improve performance and increase productivity in organizations.

2. Literature Review

Knowledge of organizational behavior The knowledge of organizational behavior studies and analyzes human behaviors in organizational environments and tries to achieve a better understanding of how individuals and groups interact in organizations (González et al., 2021). This knowledge examines factors such as motivation, leadership, communication, organizational culture, and organizational structures to understand how these factors affect employee performance, satisfaction, and behavior. As an interdisciplinary field of knowledge, organizational behavior uses the foundations of psychology, sociology, economics, and management to analyze

complex human behaviors in work environments and provide solutions to improve employee efficiency and satisfaction (Salman et al., 2020).

One of the key topics in the knowledge of organizational behavior is the study of how people interact with each other and with the organization. For example, this knowledge examines the effects of leadership on employee motivation, how work teams are formed and function, and how to manage conflicts and tensions in the workplace.

Also, organizational behavior examines how organizational culture affects employee behaviors and attitudes and tries to provide solutions for creating positive and supportive organizational cultures.

These topics help organizations to create better work environments where people are more motivated and efficient. In addition, knowledge of organizational behavior can help organizations improve change management processes.

Changes in organizations, such as structural, technological, or cultural changes, can have profound effects on employee behavior (Misra & Sharma, 2017).

Organizational behavior helps managers to manage these changes effectively and provide strategies to reduce resistance to changes and increase their acceptance by employees (Valikhani Dehakhani and Masoumi, 2022).

This knowledge helps organizations to use scientific and evidence-based methods to guide human behavior in line with organizational goals and, as a result, to improve organizational performance and employee satisfaction (Chen & Jiang, 2019).

Behavioral competence Competence exists in two forms, visible and hidden. Knowledge has the most visibility and is recognized by many managers in matching people with jobs. Some skills are very obvious and clear, and others are less definable, and the hidden competence of people is the abilities that are very valuable and can increase people's performance (Mathis & Jackson, 2018).

The competency model determines the competencies that are necessary to perform specific professional or organizational tasks (Gadotti, 2012). In other words, the

competency model is a behavioral description of a job that should be prepared for every profession and every professional performance (Juchnowicz & Sienkiewicz, 1999). The competency-based model has been included in several definitions of competencies in recent years. Boyatzis (2008) defines competencies as different but related capabilities that are organized around basic objectives in different situations. Similar definitions have recently been presented by Blašková et al. (2014) and Edwards-Schachter et al. (2015), and from the perspective of Jackson and Chapman, competencies are capabilities that have characteristics, skills, abilities, and values that help employees to work successfully

Organizations have understood the importance of improving the competencies of their managers, relying on the principle that competent managers are more likely to meet their performance goals and objectives.

Therefore, by using the competence approach in the implementation of human resources development functions, organizations will be able to achieve a sustainable competitive advantage due to the developed and strong competence in the base and superior performance (Potolea & Toma, 2019).

Equipping the current organizations with professional competencies in the specialized field is a prerequisite for them to be placed in challenging environments (Kirimi et al., 2016). Professional competence is the ability that people in their job field achieve a certain amount of skill, knowledge, ability and

measurable characteristics with training and practical experience; which is combined with a sense of self-confidence, self-efficacy and professional identity (Mulder, 2014). Professional competencies increase general professional training of employees. For this reason, today's business world demands general professional training. Therefore, professional competence should be a social competence as well. Professional knowledge and information are the basis of developing skills, attitude and vision, but alone it is not effective in the field of competence development (Dianti and Erfani, 2009).

Durak et al., 2021). In a work environment, strong interpersonal skills are an asset that can help employees navigate complexity, change, and day-to-day tasks (Tyson & Tyson, 2020).

Once the job competency profile is established, the foundation of the competency-based management system is formed and can be used for a wide range of human resource management planning and functions. This stream includes developing competency statements, hiring employees using behavior-based interviewing techniques, implementing self-assessment and performance management processes, and supporting learning and career development (Litvinenko et al., 2022).

Due to the importance of the research topic, studies have been conducted that are different from the current study in terms of approach, or have been conducted with a limited purpose, which we have mentioned in the table below:

Table 1. Research background

No.	Researchers	Research method	Research results
1	Nellie et al. (2024)	The mediating role of competence in the effect of transformational leadership on teacher performance	The findings indicate that transformational leadership is fundamental in developing competencies, which in turn improves the work performance of university professors.
2	Ghorbani(2023)	An overview of the competencies and leadership profile of successful construction project managers	The results showed that among the most important elements for a successful project manager is a combination of knowledge, skills, leadership, ability and personal attitude, which is necessary for the successful completion of the project.
3	Sahay and Kaur (2022)	Empowering organizational performance through the automation of human resources and behavioral competencies	The result shows that all 18 indicators of behavioral competence do not affect highly effective performance in the same way, some have a positive effect and some have a negative effect.
4	Niazi et al. (2020)	The effect of managerial competence and learning orientation on job performance	The results indicate that social skills moderate the relationship between managerial competence and job performance, while the moderating role of social skills was not found for the relationship between learning orientation and job performance.
5	Rostami Pashaei et al. (2024)	Conceptualization of global leadership competency model by systematic review method	Identifying the concepts of "world-level leadership behaviors", "world-level leadership duties", "world-level leadership relationships", "world-level leadership style" and "external duties of world-level leadership" along with their dimensions are among the results of this research.
6	Raisi et al. (2024)	Designing the competency model of human resources in the Ministry	The findings of the research showed that the dimensions of the integrated competency model of human resources of the Ministry of Energy include

		of Energy with an architectural approach	four structures and ten components. The first construct is "competent human resource managers", the second construct is "competent systems and processes", the third construct is "competent human resources" and the last construct is "organization strategies".
7	Khodaparast and colleagues (2023)	Analyzing the dimensions and components of the developed model of competency-based succession in education-oriented organizations with a metacombination approach	The results showed that 7 codes of 53 concepts and 24 categories were determined and identified
8	Valikhani Dahaghani and Masoumi (2022)	Identifying and prioritizing the behavioral barriers to the competence of managers in government organizations with the fuzzy Delphi approach and the best-worst method (BWM).	The results of weighting and prioritizing the barriers to the behavioral competence of managers with the best-worst method show that the dimensions of inappropriate cultural tendencies and lawlessness and politicking and the personality characteristics of managers, organizational conflict and leadership style rank first. They won the next one.
9	Vaezi et al. (2019)	Model of competences of human resources managers of government organizations in the conditions of globalization	In this research, 39 components and 115 indicators related to these dimensions were identified and classified. Based on the results of the research on the competences of human resource managers in the conditions of globalization, intellectual competence is the most important factor and cultural competence is the last priority.

3. Method

The current research is applied-developmental in terms of its purpose, and descriptive-survey in terms of its method. The approach used in this research is a mixed exploratory one, which is a combination of qualitative and quantitative methods. Interviews and questionnaires are used to answer the research questions.

According to the development process of the research, the inductive method was used to discover the variables in the research in order to design the model. In the current research, the purposeful sampling method was used due to the use of the interview tool. This stage involved the use of qualitative methods and its results were used as the basis for the next stage.

In the second step, the model identified using grounded theory analysis was put to the test and its validity was determined using structural equation model method and AMOS software. This stage involved the use of quantitative methods. For this purpose and to collect data, the tools of observation of organizational actions related to the research topic and exploratory interviews of the employees of the Iraqi Ministry of Islamic Guidance (Baghdad, Diyala, Karbala) were used.

Sampling method and sample size: In this research, the purposeful (non-probability) sampling method was used using the strategy of combining multiple purposeful methods.

In this way, the selection of samples is done until there is no newer information or new features. In order to identify the

concepts, a total of 14 interviews were conducted with the employees of the Iraqi Ministry of Islamic Guidance (Baghdad, Diyala, Karbala).

In the second step, purposeful sampling method was used to determine the validity of the model and confirmatory factor analysis. The number of samples at this stage was 384 people.

The collection tool in the quantitative stage was a researcher-made questionnaire using a five-point Likert scale, whose content validity was confirmed by obtaining the opinions of elites and experts, and its reliability was confirmed by calculating Cronbach's alpha coefficient. To determine the CVR of the questionnaire, the designed questionnaire was provided to 9 experts in this field and according to the table, the acceptable CVR value was considered to be 0.75. After calculating the CVR, a value of 0.92 was obtained, so it was clear that all the questions in the questionnaire had the necessary validity.

Reliability

In such a way that the questionnaire was distributed among a number of the investigated community and entered into the SPSS software, and then Cronbach's alpha was calculated.

Considering that the overall alpha value of the questionnaire is 0.85 and this value and the rest of the alpha values are above 70%, therefore it can be claimed that the questionnaire has the required reliability, and it was examined and confirmed among the society.

384 questionnaires were distributed and completed questionnaires were used in the analysis. The average return rate of the questionnaire was 97%.

Objectives

- 1.Examining the causal conditions affecting the behavioral competence of employees in the work environment in the Iraqi ministries of culture
2. Strategic review of explaining a model for the behavioral competence of employees in the work environment in the Iraqi ministries of culture
- 3.Investigating the interfering factors affecting the explanation of a model for the behavioral competence of employees in the work environment in the ministries of culture of Iraq.
- 4.Examining the background factors affecting the explanation of the behavioral competence model of employees in the work environment in the ministries of culture of Iraq.
- 5.Investigating the effective consequences of explaining a model for the behavioral competence of employees in the work

environment in the Iraqi ministries of culture.

4. Findings

In order to answer the research question "What is the design and model of the exploratory data-driven behavioral competence of employees with the approach of information and knowledge of the work environment?", the open and central codings of each part of the contextual model are given below.

Causal conditions of employees' behavioral competence with the approach of information and knowledge of the work environment:

Causal conditions are categories that affect the central category, based on the conducted interviews, the central codes of "environmental analysis; management challenge; analysis of employees' behavioral competence" were identified and it was made into a wider selection code. Another has given the name of causal conditions. The participants in the research stated that there are conditions involved in the behavioral competence of employees in the work environment, as described in Table (2).

Table 2. Axial coding of qualitative data (causal conditions)

Axial coding	Secondary coding	Open coding
Environmental analysis	Job needs analysis	Determining the necessary skills, knowledge and abilities
		Understanding the needs of different job positions
	Emotional challenges	Fluctuation of employee loyalty in relation to the organization
		Psychological breakdown of employees
		Increase of mood and emotional crises within the organization
		Increased emotional exhaustion
	Analysis of organizational needs	The need to strengthen internal organizational forces
Lack of goals and strategies		
Management challenge	Organizational laziness	Understanding the strategy of Iraqi ministries of culture
		Procrastination and social laziness
		Deviation from social contracts
		Lack of excitement and adaptability
		Feeling powerless to change
	Ineffective leadership	Failure to diagnose problems early
		Lack of leadership skills
		Inability to draw a desirable future
	Expectations of leadership	Weakening the influence and control power of leaders
		Increased expectation of leadership performance
		The need for effective and motivating leadership
Analysis of employees' behavioral competence Axial coding Environmental analysis Management challenge	Respect and flexibility	The need for a different leader
		Inappropriate behavior with colleagues and managers
	Honesty and professional ethics	Lack of flexibility in facing changes and new conditions
		The importance of honesty in communication and providing correct information
	Accountability	Compliance with the principles of professional ethics in all actions and behaviors
		Accepting responsibility for your actions and duties
	Effective collaboration and interaction	Completing tasks on time and with the desired quality
		The need to cooperate with others in order to achieve common goals
		Facilitating effective and productive interactions with colleagues and managers
	Commitment to continuous improvement	Importance to interest in learning and personal and professional development
		Pursue improvement opportunities and provide constructive suggestions

	Stress management and problem solving	Able to manage stress and do desired tasks in difficult situations Anticipate possible issues
	Respect for diversity	The need to respect individual and cultural diversity in the workplace Creating an environment to welcome people from different backgrounds
	Flexibility to change	Failure to adapt to changes and innovations within the organization
	Secondary coding	Lack of solutions to improve the changes

The contextual conditions of employees' behavioral competence with the approach of information and knowledge of the work environment:

The background or context is a set of special characteristics that indicate the phenomenon in question, that is, the place of incidents and events related to the phenomenon. The context indicates the set of

special conditions in which action and reaction strategies take place. The set of background elements in the behavioral competence of employees in the work environment includes "organizational culture analysis; application of law and policy", which is given in Table (3).

Table 3. Axial coding of qualitative data (contextual conditions)

Axial coding	Secondary coding	Open coding
Analysis of organizational culture	Work space	Knowing the expected behaviors of the work environment
		Respect for privacy
		Creating an enthusiastic environment to focus on appropriate behaviors
	Organizational culture	Positive work culture in the organization
		Knowing the expected values and principles in the organization
Apply law and policy Axial coding Analysis of organizational culture	Rules and regulations	Setting goals and criteria
		Compliance with privacy standards and laws
		Compilation of rules related to the competence of organizational behavior
	Specific policy Secondary coding work space	Amendment of the rules related to the competence of organizational behavior
		Definition of ethical and professional competencies
		Determining a framework for the policy of behavioral competencies
		Definition of evaluation criteria

Intervening conditions of employees' behavioral competence with the approach of information and knowledge of the work environment:

Structural conditions belong to a phenomenon and affect action and reaction strategies. They facilitate or constrain strategies within a particular context. Contributors suggest that determining

competencies; dimensions of leadership competence; The process of building the behavioral competence model of employees is one of the interfering conditions of the behavioral competence of employees in the work environment, which is presented in table (4).

Table 4. Axial coding of qualitative data (intervening conditions)

Axial coding	Secondary coding	Open coding
Determining competencies	Technical efficiency and capability	Specialized job-related skills
		Ability to use communication technologies
		Ability to use information technologies
	Cooperation and social interaction	Ability to work in a team
		Effective communication with colleagues
		Ability to resolve conflicts and interpersonal issues.
		Adherence to ethical principles and organizational rules
	Commitment to work and ethics	Respect for colleagues and managers
		Commitment to perform tasks correctly
Coaching		
Dimensions of leadership competence	Leadership	Leadership styles
		Power
		Delegation of authority
		Balance and priorities
	Self-control	Mental models
		Working under stress
		Optimism
	Creativity	Imagination and intuition
		Creative techniques
	Reliability	Control cycle

	Motivation	Systematic and regular
		Tolerance of mistakes
		work method
		passion for work
		Motivational models
	Ethics	team building
		code of conduct
		Solidarity
		Transparency
		Appreciation of personal interests and goals
The process of building the behavioral competency model of employees Axial coding Determining competencies	Data collection	Collecting structured data related to employee behaviors in the workplace
		Collecting unstructured data related to employee behaviors in the workplace
	Data preprocessing	Cleaning and converting data into a processable format
		Analyze data to identify patterns
	Conceptualization and interpretation	Data interpretation to identify indicators of behavioral competence
		Determining the important characteristics of behavioral competence
		Selection of main and secondary criteria
		Choosing the right model based on the type of data and purpose
		Model training using training data
	Model selection	Model performance evaluation
		Analyze the results and modify the model if needed

Behavioral competence strategies of employees with the approach of information and knowledge of the work environment:

Strategies are based on actions and reactions to control, manage and feedback the phenomenon under investigation. Strategies are purposeful and are done for a

reason. The strategies of this research include interpersonal skills; communication skills; analytical skills; leadership skills; Determining behavioral criteria; model evaluation and development; Implementation and monitoring is stated in table (5).

Table 5. Axial coding of qualitative data (strategic conditions)

Axial coding	Secondary coding	Open coding
Interpersonal skills	Teamwork	Ability to coordinate and collaborate with team members to achieve common goals
		Ability to adapt to changes in the team and work environment
	Establishing trust	trust building
		Presenting reality
Networking	Communicate	
	Developing relationships	
Communication skills	Effective communication	Active listening
		Non-verbal communication
	Assignment	Distribution of responsibility
		Monitoring
	Conflict management	Presentation design
Speaking skill		
Analytical skills	Ability to analyze	Measuring a person's ability to pay attention to details
		Measuring a person's ability to analyze data and information
	Solve problems	Measuring a person's ability to solve different problems
		Anticipating effective solutions
	Planning and organizing	Measuring a person's ability to plan
		Organizing tasks and activities
	Strategic thinking	Measuring a person's ability in strategic thinking
Accurate understanding of issues and opportunities		
Ambiguity management	Measuring a person's ability to manage ambiguity	
	Decision making under uncertain conditions	
Leadership skills	Long term view	Measuring a person's ability to think innovatively
		Finding creative solutions
	Strategic planning	Ability to take a long-term view
The ability to look broadly at the issues and challenges of the organization		
Providing innovative approaches		
Strategic planning	Determining goals and strategies	
	Change in the selection and hiring process	

	Entrepreneurial spirit	Risk acceptance
		Internal entrepreneurship
		Ability to propose entrepreneurial ideas
	Influence	Optimal time management
		Ability to influence and balance power in the workplace
		Ability to make decisive decisions
	Change management	Leadership ability in change processes
		Making up-to-date changes in the organization
	Responsibility (accepting responsibility for actions)	Accepting responsibility for dealing with inappropriate behavior
		Promoting the concept of responsibility in the workplace
Determination of behavioral criteria	Determining and describing positive individual behaviors	Interested in work
		result oriented
		self-awareness
		Adaptability
		Motivation to progress
		Perseverance
		Brave and bold
		Honesty in working with people
		Loyalty
		Optimism
		Discipline
	self confidence	
	Stress management	Stress detection
Stress management strategies		
Maintain balance		
Model evaluation and development	Competency assessment	Assessing the current competencies of employees using different tools
		Individual development programs
	Competence development	Strengthening competencies that need development and improvement
		Customized training and personal development programs
Implementation and monitoring Axial coding Interpersonal skills	Implementation of educational programs	Implementation of training programs based on identified needs
		Teaching and training
		Reward and incentive system
		Advice and guidance
	Supervision	Monitoring the progress and effectiveness of programs
		Evaluating the effectiveness of training
		Feedback and evaluation system

Consequences of employees' behavioral competence with the approach of information and knowledge of the work environment:

The results that emerge as a result of strategies. Consequences are the results of actions and reactions. Consequences cannot always be predicted and are not necessarily what people intended. Consequences may be incidents and events, take a negative form, be real or implied, and occur in the present

or future. It is also possible that what is considered as an outcome at one point in time will become a part of the conditions and factors at another point in time. The consequences of this research include success within the organization; Key competencies; Success is an external organization that is stated in table (6).

Table 6. Axial coding of qualitative data (consequences)

Axial coding	Secondary coding	Open coding
Success within the organization	Increasing employee satisfaction	Increasing employee satisfaction
		Employees' trust in the organization
	Increase productivity and efficiency	Increasing employee productivity and efficiency
		Energy and resource efficiency
	Reducing risks and problems	Increase desirable behaviors
		Identifying ineffective employees
	Optimal use of resources	Anticipation of unpleasant behaviors and confrontation
		Employee investment
Reducing social costs		
Optimal management of resources		
Key competencies	Personal	The right balance of work, family and leisure time
		Decisiveness and persuasiveness
		Self-confidence
		Energy renewal

		Belief in yourself
	Management reliability	Aga Hi increase
		Full access
		Counseling
		Negotiation
		Appreciation is valuable
		Extensive non-project management
External organizational success Axial coding Success within the organization		Promotion of organizational culture
		Promotion of behavioral competence
	Maintaining the reputation and credibility of the organization	More reputation and credibility in the eyes of the public
		Providing the appropriate behavioral competency model
	Increasing organizational performance	Increasing the organizational performance of employees
	Secondary coding	Achieving organizational goals and successes

Among the identified factors, a selective coding paradigm was performed and based on that, the linear relationship between the secondary code and the central code of the research, including causal conditions, background conditions, intervening conditions, strategies and consequences, was determined. Figure (1) shows the coding

paradigm and, in other words, the qualitative research process model. In the second stage of the research, the designed model was validated based on the designed questionnaire and using confirmatory factor analysis method. Before dealing with this section, a summary of descriptive statistics is provided as described in the table below.

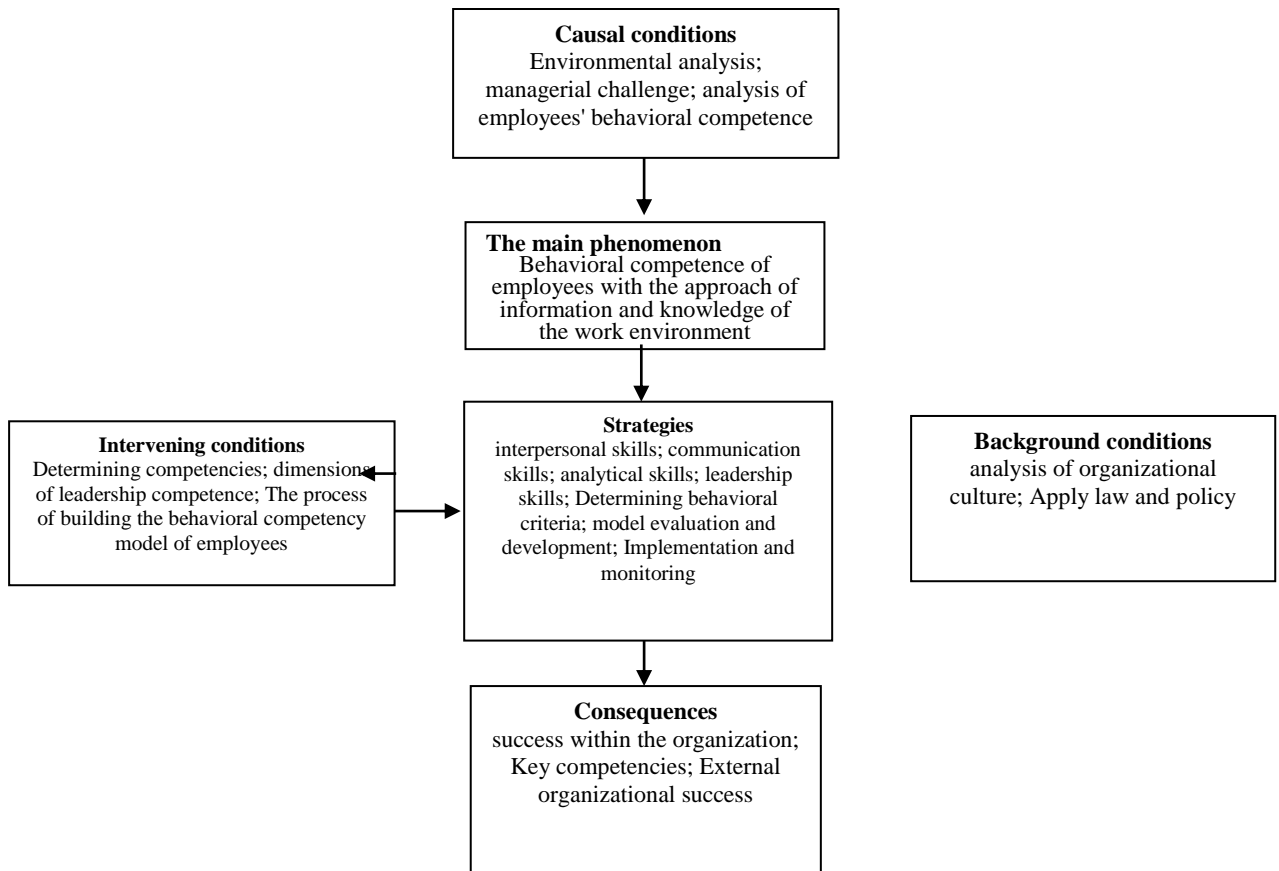


Figure 1. Paradigm model of employees' behavioral competence

Table 7. Data normality test

Variables	Level of significance	Kolmogorov Smirnov	Test result
Causal conditions	0.088	1.292	Normal
Background conditions	0.094	1.099	Normal
Intervening conditions	0.074	1.372	Normal
Strategies	0.063	1.400	Normal
Consequences	0.253	0.987	Normal

Based on the results of the Kolmogorov-Smirnov test, in all cases, a significance value greater than the error level (0.05) has been obtained. Therefore, there is no reason to reject the null hypothesis and the data distribution is normal.

Evaluation of the significance of the behavioral competency model of employees

After confirming the factorial structure of the research constructs, structural equation modeling has been used to examine the relationships between the variables. Structural equations have been used to measure research hypotheses.

A structural equation model is a specific causal structure between a set of unobservable constructs. A structural equation model consists of two components:

a structural model that specifies the causal structure between latent variables and a measurement model that defines relationships between latent variables and observed variables. Using the structural equation model, the relationships between hidden variables can be investigated, as well as the measurement items of each hidden variable with the relevant variable. Multivariate theoretical models cannot be evaluated by the bivariate method, where only the relationship of an independent variable with a dependent variable is considered each time. Multivariate analysis refers to a series of analysis methods whose main feature is the simultaneous analysis of K independent variables and n dependent variables.

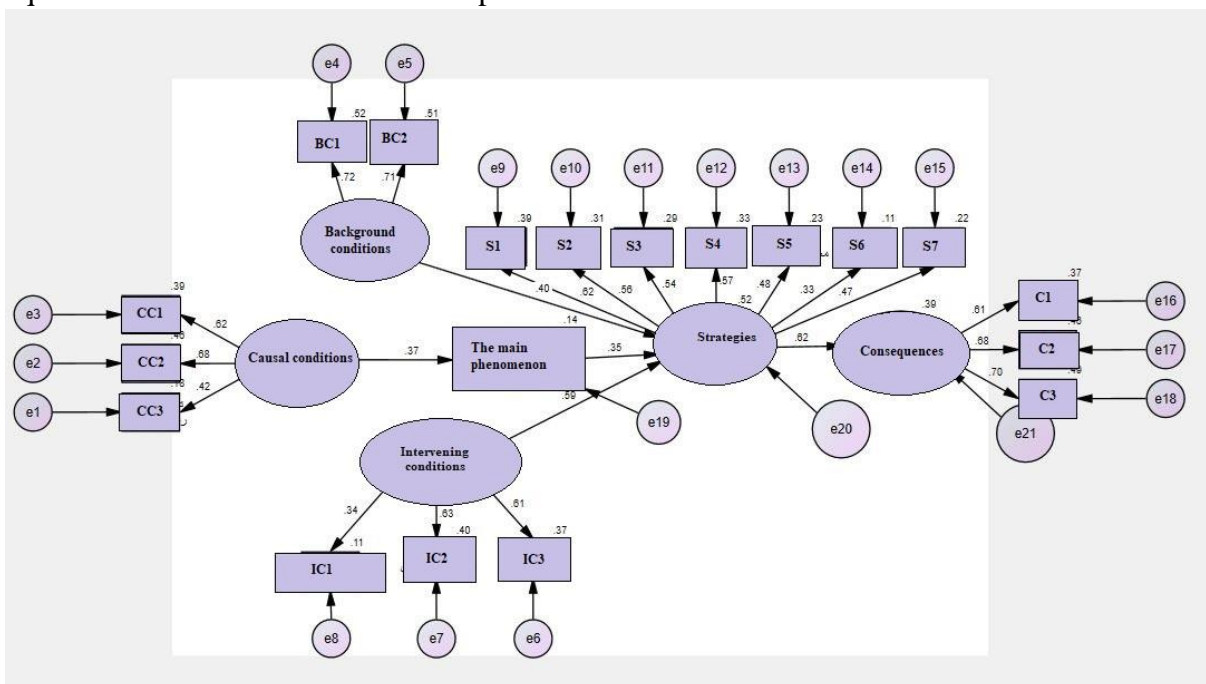


Figure 2. Structural model being estimated by Amos software

All factor loadings are higher than 0.3, to express the acceptability of the model, Bentler-Bonnet normalized fit indices, relative fit, incremental fit, adaptive indices

and perfect square are used, and the results obtained from the model are in Table 8 is displayed.

Table 8. Model fit indices

AGFI	SRMR	RFI	IFI	GFI	CFI	NFI	RMSEA	X2/df	Model
------	------	-----	-----	-----	-----	-----	-------	-------	-------

>0.8	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.1	1-3	Acceptable amount
0.87	0.16	0.94	0.94	0.94	0.96	0.97	0.018	1.12	Calculated

In the following, the influence of the identified factors on each other has been investigated:

Table 9. Investigating the influence of the identified factors of the foundation data model on each other

Impact	Operational factor	t statistic	Level of significance	Result
Causal factors on the main category	0.37	5.947	0.000	Confirmation of relationship
Background factors on strategies	0.59	7.884	0.000	Confirmation of relationship
Intervening factors on strategies	0.40	6.029	0.000	Confirmation of relationship
The main category on strategies	0.35	5.049	0.000	Confirmation of relationship
Strategies on consequences	0.62	8.190	0.000	Confirmation of relationship

According to the table, the factors identified in the foundation's data model have influenced each other. The factor load of causal factors on the main category is 0.37 and its t-statistic is 5.947, the factor load of background factors on strategies is 0.59 and its t-statistic is 7.884.

The factor load of intervening factors on strategies is 0.40 and its t-statistic is 6.029, the factor load of the main category is 0.35 on strategies and its t-statistic is 5.049. Finally, the factor load of the strategies on the results was 0.62 and the TN statistic was 8.190. Therefore, it can be said that the research model is approved.

5. Discussion

Improving the behavioral competence of employees with the approach of information and knowledge of the work environment in the Iraqi Ministry of Culture requires training and individual and organizational development programs that help employees to use their abilities and skills in the best possible way, and as a result, productivity and organizational efficiency. increase According to the background factors of this research, the identification of behavioral barriers such as inappropriate cultural tendencies and lawlessness that helps to

improve the behavioral competencies of employees and the organization can create an environment where employees work with high motivation and commitment and achieve the goals of the organization.

A detailed understanding of the combination of knowledge, skills, leadership and personal attitude of project managers that must be consistent with the organizational culture embedded in the intervention context. In the strategy stage, information related to employee behaviors in the workplace is collected from various sources. The data is then cleaned and converted into a processable format, which includes removing irrelevant or incorrect data, standardizing the data, and setting it up for further analysis. By using data analysis techniques, behavioral patterns are identified and the stage of model selection and evaluation takes place.

The appropriate model is selected based on the type of data and the intended purpose and is trained using the training data. After training, the performance of the evaluation model and its results are analyzed. If needed, the model is modified and improved to reach the highest level of accuracy and efficiency.

This iterative process allows the organization to continuously improve the

behavioral competency model and adapt to environmental and organizational changes.

The end result is a model that effectively measures and improves employee competencies and capabilities and helps the organization achieve its goals. Based on the model designed in the quantitative section, propositions were presented and analyzed.

The results of the factor analysis of the causal condition variable scale, including 3 hidden variables and 14 visible variables, have a value greater than 0.3 in all cases, which shows that the correlation between the hidden variables (dimensions of each of the main structures) and the visible variables is acceptable. The results of the factor analysis of the background condition variable scale including 2 hidden variables and 4 visible variables, after the correlation of the variables is identified, a significance test should be performed.

To check the significance of the relationship between the variables, the t-value statistic was used. Because significance is checked at the error level of 0.05, so if the t-value test statistic is greater than the critical value of 1.96, the relationship is significant.

Based on the results of the measurement indices of each of the scales used at the 5% confidence level, the t-value statistic is greater than 1.96, which shows that the observed correlations are significant. Also, investigating the intervention conditions affecting behavioral competence with 3 hidden variables and 14 visible variables, as well as investigating effective strategies on behavioral competence with 7 hidden variables and 25 visible variables, and investigating the consequences affecting behavioral competence with 2 hidden variables and 4 observable variables. observation; It shows that the observed correlations are significant. Finally, the factors identified in the foundation's data model have had an impact on the integration.

The factor load of causal factors on the main category is 0.37 and its t-statistic is 5.947, the factor load of background factors on strategies is 0.59 and its t-statistic is 7.884. The factor load of intervening factors on strategies is 0.40 and its t-statistic is

6.029, the factor load of the main category is 0.35 on strategies and its t-statistic is 5.049. Finally, the factor load of the strategies on the outcomes was 0.62 and the TN statistic was 8.190. Therefore, it can be said that the research model is approved. These results are in line with the results of Ghorbani (2023), Raisi et al. (2024), Heydarian et al. (2023), Mousavi et al.

6. Conclusion

Presenting a data-driven exploratory model of employees' behavioral competence within the context of the work environment underscores the intricate relationship between knowledge management and individual performance. In today's digital age, organizations face constant shifts in technologies and methodologies, requiring employees to adapt not only in their skillsets but also in their behavior.

Behavioral competence—defined as the ability of employees to apply knowledge and skills in a practical, adaptive manner—plays a critical role in determining organizational success. By incorporating a data-driven approach, organizations can better understand the factors influencing behavioral competence and develop strategies to enhance it.

This exploration includes analyzing how information flows within the work environment and its impact on employees' behavior and decision-making processes.

A data-driven model allows for the systematic collection, analysis, and interpretation of data related to employees' actions, attitudes, and interactions within the work environment. This approach enables organizations to move beyond subjective assessments of employee behavior and focus on objective metrics that provide insight into how employees adapt to the ever-changing demands of their roles.

Key components of the model often include employee engagement, knowledge-sharing behaviors, problem-solving capabilities, and adaptability to new systems and technologies.

These variables can be monitored through digital tools such as employee performance tracking systems and knowledge

management platforms. This data is then used to identify trends and patterns in behavior, providing valuable insights that can guide leadership in making informed decisions about employee development.

Moreover, the interplay between knowledge and behavior is particularly significant in environments that prioritize continuous learning and innovation.

Knowledge-sharing, for instance, is a crucial aspect of behavioral competence, as employees who are open to exchanging information and collaborating with their peers are more likely to contribute to the organization's overall knowledge base.

The model emphasizes the importance of fostering a culture where knowledge is valued, accessible, and continuously updated. This can be supported by the implementation of organizational policies and digital platforms that encourage communication and collaboration.

By analyzing data on how employees interact with these platforms, organizations can identify areas where behavioral improvements are needed and implement targeted interventions to promote more effective knowledge-sharing.

In conclusion, the data-driven exploratory model of employees' behavioral competence provides a robust framework for understanding and improving the behaviors that contribute to organizational success.

By integrating information and knowledge management with behavioral analysis, organizations can create environments where employees are empowered to apply their skills in meaningful ways, ultimately enhancing their competence.

This approach not only improves individual performance but also supports the organization's long-term adaptability and resilience in a competitive marketplace. The ability to continually analyze and adjust based on real-time data ensures that both employees and organizations are positioned to succeed in an increasingly complex and dynamic work environment.

Here are some research suggestions based on presenting a data-driven exploratory model of employees' behavioral competence with the approach of information and

knowledge management in the work environment:

1. Exploring the Impact of Knowledge Sharing on Behavioral Competence in Knowledge-Intensive Work Environments

2. Analyzing the Role of Organizational Knowledge Systems in Enhancing Employee Adaptive Behaviors

3. The Relationship Between Information Accessibility and Employee Problem-Solving Competence

4. A Data-Driven Approach to Understanding Behavioral Competence Development Through Continuous Learning Systems

5. Investigating the Role of Knowledge Absorptive Capacity in Improving Behavioral Competence

6. The Influence of Information Flow on Employee Decision-Making and Behavioral Competence in Digital Workplaces

7. A Comparative Study of Behavioral Competence Development in Knowledge-Driven vs. Routine Work Environments

8. The Impact of Knowledge Management Tools on Collaboration and Behavioral Competence in Remote Teams

9. Exploring Behavioral Competence in Relation to Knowledge-Based Leadership Styles

10. Predictive Analytics in Behavioral Competence: Using Data to Forecast Competence Growth in Knowledge-Intensive Industries

Suggestions

- The behavioral competencies related to each job role should be defined accurately and clearly.

- Training courses and skill-building workshops should be held based on the identified competencies.

- To design and implement coaching and counseling programs to develop employees' behavioral and technical skills.

- Performance evaluation tools should be used regularly to check the progress of employees towards the desired competencies.

- Implement a continuous and constructive feedback system so that employees are aware

of their strengths and weaknesses and strive for improvement.

-Team activities and joint projects should be encouraged to increase the spirit of cooperation and interaction among employees.

-Design and implement change management programs to implement the competency model and adapt the organization to it.

-Competency goals should be aligned with the organization's strategic goals so that efforts are aimed at achieving the organization's mission and vision.

-The results of the implementation of the competency model should be reviewed and analyzed periodically to ensure that it is moving in line with the strategic goals.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Ahmed, R., Philbin, S. P., & Cheema, F. E. A. (2021). Systematic literature review of project manager's leadership competencies. *Engineering, Construction and Architectural Management*, 28(1), 1-30. <https://doi.org/10.1108/ECAM-05-2019-0276>
- Antera, S. (2021). Professional competence of vocational teachers: A conceptual review. *Vocations and Learning*, 14(3), 459-479. <https://doi.org/10.1007/s12186-021-09271-7>
- Blašková, M., Blaško, R., & Kucharčíková, A. (2014). Competences and competence model of university teachers. *Procedia-Social and Behavioral Sciences*, 159, 457-467. <https://doi.org/10.1016/j.sbspro.2014.12.407>
- Chen, Y. H., Wang, K. J., & Liu, S. H. (2023). How Personality Traits and Professional Skepticism Affect Auditor Quality? A Quantitative Model. *Sustainability*, 15(2), 1547. <https://doi.org/10.3390/su15021547>
- Chitgar, M. (2023). Leadership Competencies You Must Develop, <https://chitgarha.com> [in Persian]
- Dianti, M., & Erfani, M. (2008). Competence, concepts and applications, *Tadbir Quarterly*, No. 20, pp. 16-19. [in Persian]
- Dibai S., Mohsen A., Efat Fathi Vajargah, K. & Safai Mohd, S. (2011). Explanation of the components of teachers' professional competence and analysis of its position in the upstream documents of Iran's education and training, *Biquarterly journals of education and learning research*, 13(2), 26: 109-123. [in Persian]
- Edwards-Schachter, M., García-Granero, A., Sánchez-Barrioluengo, M., Quesada-Pineda, H., & Amara, N. (2015). Disentangling competences: Interrelationships on creativity, innovation and entrepreneurship. *Thinking skills and creativity*, 16, 27-39. <https://doi.org/10.1016/j.tsc.2014.11.006>
- Ghorbani, A. (2023). A review of successful construction project managers' competencies and leadership profile. *Journal of Rehabilitation in Civil Engineering*, 11(1), 76-95. <https://doi.org/10.1177/2158244016680687>
- Gómez-Arizaga, M. P., Conejeros-Solar, M. L., & Martin, A. (2016). How good is good enough? A community-based assessment of teacher competencies for gifted students. *SAGE Open*, 6(4), 2158244016680687. <https://doi.org/10.3926/jiem.3279>
- González-Varona, J. M., López-Paredes, A., Poza, D., & Acebes, F. (2021). Building and development of an organizational competence for digital transformation in SMEs. *Journal of Industrial Engineering and Management (JIEM)*, 14(1), 15-24
- Karimi, A., Timuri, H., Shahin, A. & Shaimi Barzeki, A. (2017). Designing a competency-based performance evaluation system with a succession approach. *Scientific Quarterly of Government Organizations Management*, 6(2): 95-108. [in Persian]
- Khodaparast, M., Kiakjuri, DA., Mortazavi Amiri, J., & Jafari Kalarijani, A. (2023). Analyzing the dimensions and components of the developed competency-based succession model in education-oriented organizations with a hybrid approach. *Education Management and Perspective Quarterly*, 5(4), 193-220. [in Persian]

- Lee, H., Park, J., & Lee, J. (2013). Role of leadership competencies and team social capital in IT services. *Journal of Computer Information Systems*, 53(4), 1-11. <https://doi.org/10.1080/08874417.2013.11645645>
- López-López, M. J., Navarro-Abal, Y., Climent-Rodríguez, J. A., & Gómez-Salgado, J. (2020). Healthcare students' personality traits and competence-based learning methodologies. *Medicine*, 99(17), e19812. <https://doi.org/10.1097/MD.00000000000019812>
- Mathis, R.I. & Jackson, J.H (2018). Human Resource Management, cengage learning publishing
- Nelly, N., Prabowo, H., Bandur, A., & Elidjen, E. (2024). The mediating role of competency in the effect of transformational leadership on lecturer performance. *International Journal of Educational Management*, 38(2), 333-354. <https://doi.org/10.1108/IJEM-06-2023-0275>
- Potolea, D., & Toma, S. (2019). " Competence" concept and its implications on teacher education. *Journal of educational sciences and psychology*, 9(2).
- Raisi, P., Mortazavi, M., & Sayednaqvi, M. (2023). Designing the competency model of human resources in the Ministry of Energy with an architectural approach. *Iranian public administration studies*, ready for publication. [in Persian]
- Rostami Pashai, H., Rezaian, A., & Fradiani, H. (2023). Conceptualization of global leadership competency model by systematic review method. *Improvement and transformation management studies*, ready for publication. [in Persian]
- Sahay, U., & Kaur, G. (2022, November). Enabling organizational performance through HR automation and behavioral competencies. In *AIP Conference Proceedings* (Vol. 2644, No. 1). AIP Publishing. <https://doi.org/10.1063/5.0104475>
- Salman, M., Ganie, S. A., & Saleem, I. (2020). The concept of competence: a thematic review and discussion. *European Journal of Training and Development*, 44(6/7), 717-742. <https://doi.org/10.1108/EJTD-10-2019-0171>
- Smith, M. M., Sherry, S. B., Vidovic, V., Saklofske, D. H., Stoeber, J., & Benoit, A. (2019). Perfectionism and the five-factor model of personality: A meta-analytic review. *Personality and Social Psychology Review*, 23(4), 367-390. <https://doi.org/10.1177/1088868318814973>
- Vaezi, R., Seyednaqvi, M., Hosseinpour, D., & Taji, F. (2019). Model of competences of human resources managers of government organizations in the conditions of globalization. *Improvement and transformation management studies*, 29(96), 9-44. [in Persian]
- Valikhani Dehakhani M., & Masoumi A. (1401). Identifying and prioritizing the behavioral barriers to the competence of managers in government organizations with the fuzzy Delphi approach and the best-worst (BWM) method. *Scientific Journal of New Research Approaches in Management and Accounting*, 6(20), 1414-1426. [in Persian]