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# Presenting a Model for Virtual Education Using Interpretive Structural Modeling Method at Farhangian University of Khorasan Razavi

Mohammad. Delghandi[1], Mohammad. Karimi[2]*, Hassan. Nodehi[3], Moslem. Cherabin[4]

[1] PhD Student, Department of Educational Sciences, Neyshabur branch, Islamic Azad University, Neyshabur, Iran
[2] Assistant Professor, Department of Management, Neyshabur Branch, Islamic Azad University, Neyshabur, Iran
[3] Assistant Professor, Department of Educational Sciences, Hakim Sabzevari University, Sabzevar, Iran
[4] Assistant Professor, Department of Educational Management, Neyshabur Branch, Islamic Azad University, Neyshabur, Iran

*** Corresponding author email address**: karmi740@gmail.com

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A B S T R A C T

**Objective:** The primary goal of this research was to present a model for virtual education using the interpretive structural modeling method at Farhangian University in Khorasan Razavi.

**Method:** The current research methodology was qualitative and applied in nature. Participants included faculty members from Farhangian University in Khorasan Razavi, selected purposively with a sample size of 13 individuals. The research tool was semi-structured interviews, the validity of which was established through face validity, and reliability was determined by an agreement coefficient between coders, resulting in a 0.85 upon re-coding between the researcher and an external coder. Additionally, a researcher-developed questionnaire was designed based on qualitative findings and distributed among the sample members. Data analysis employed coding analysis, and for the initial stage of identifying factors, the interpretive structural modeling (SIM) method was used.

**Findings:** The findings indicated that the virtual education model consists of five levels and priorities, including: Level One: Futuristic Vision; Level Two: Targeted Educational Quality, Measurability, Support Services, Information and Content; Level Three: Accessibility, Knowledge Management, and Flexibility in Education; Level Four: Pedagogical, Technological Factors, and Organizational Factors; and Level Five: Integrated Management.

**Conclusion:** Based on this research, the board of trustees, policymakers, senior managers, and the central university planning organization can work towards improving virtual education at Farhangian University, specifically as a pilot in Farhangian University of Khorasan Razavi. The managers of this academic unit can create conditions to implement the findings of this research to enhance education, particularly virtual education at this university.

***Keywords:*** *Virtual Education, Farhangian University, Educational Quality, Flexibility in Education.*

## 1 Introduction

In light of the rapid changes shaping the surrounding environment, the implementation of virtual systems for delivering services and new technologies in the field of teaching and learning has emerged as a fundamental need (Alipour & Alipour, 2022; Babazadeh et al., 2022). The advent of the internet and the World Wide Web has presented educators and learners with alternative methods of instruction (Cowperthwait et al., 2021; Yazdi & Mirhaedari, 2022). The use of learning and teaching tools such as information technology and the internet is rapidly expanding. With the growth of technology in various fields, education and learning are also being transformed by new technologies. In the current era, education is recognized as a basic human right and an agent of social change and progress. Many educational psychologists believe that learning environments should be organized in a way that allows each learner to engage and learn according to their abilities (Parsakia, 2023).

In recent years, virtual education has been highlighted as one of the significant applications of new information and communication technologies worldwide. Extensive activities have commenced in this direction, considering the rapid changes in the surrounding environment. The implementation of virtual and electronic systems for offering services and new technologies in teaching and learning has been presented as a basic need (Cho & Hong, 2021; Farhangi et al., 2018). Virtual education refers to an educational system where educators and learners interact through tools and devices provided by technology (Cho & Hong, 2021). Researchers define virtual education as a technology-based, organizationally structured, and management-focused system that enables students to learn through the internet and facilitates their learning in this process. In fact, virtual education, with all its hardware and software capabilities, is driving human knowledge towards a significant revolution, towards an internet-based education network and innovative learning methods (Cowperthwait et al., 2021; Smith et al., 2022). Various strategies have been used to facilitate learning conditions and meet the increasing demand of university applicants.

Until now, the quantitative development of university courses has continued in both face-to-face and blended formats. Developing evening university courses, creating and expanding correspondence courses, opening universities by the private sector, and collaborating with foreign universities have been common strategies. However, today, the use of learning and teaching tools, like information technology and the internet, has greatly expanded. Virtual education is one of the most prominent learning environments in the information age. Therefore, efforts and experiences related to this type of education and learning have received considerable attention worldwide. The introduction of new communication technologies into the field of education has changed the nature of the teaching and learning process in universities and led to the creation of new learning environments, namely virtual education and e-learning (Alipour & Alipour, 2022; Asghari et al., 2012). Research shows that academic virtual education, with appropriate educational content development and proper assessment, is a successful and efficient system (Hadavand S. & Kashanchi A.R., 2013; Tarus et al., 2015; Vafaee Najar et al., 2011).

To increase the applicability of the virtual education system in higher education, information technology experts suggest that competent instructors are needed for success and progress in this system. To create rapid social interaction, share learnings, and compete among students, there is a need for a platform for exchange between professors and students and new technologies. Also, promoting group activities is one of the other requirements of the virtual education system (Aboagye et al., 2021; Bailey & Lee, 2020).

On the other hand, Farhangian University, like other institutions, was traditionally and manually operational in the past. However, today, with the advancement of modern technologies, Farhangian University, like other organizations, is compelled to mechanize and digitize all organizational activities, including education and human resource development. In the information age, higher education institutions must also become electronic, and the necessary infrastructure for this should be provided. If professors are ready to accept e-learning, they can be assured that e-learning will improve their performance. Furthermore, if they are satisfied and pleased with the use of new learning technologies, their likelihood of continuously using e-learning will increase.

Studies have been conducted on the research topic. Farhangi and colleagues (2018) found in their research that, from the perspective of professors, students, and educational experts, most problems and limitations of the learning management system stem from a lack of strong interaction and communication with users, indicating the non-interactive nature of the system. When entering the field of e-learning in accordance with educational standards and



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frameworks, it is necessary to consider certain points when purchasing these systems and to obtain learning systems that possess interactive capabilities (Farhangi et al., 2018). Mazloom Ardakani and colleagues (2018) aimed to identify and categorize factors influencing the application of electronic education at Shahid Sadoughi University of Medical Sciences in Yazd and concluded that 15 factors, including technical infrastructure, clear educational objectives, educational and research incentives, awareness and capability of professors, executive-educational structures, innovative management, and supportive managers, are effective in the application of electronic education at this university (Mazloom Ardekani et al., 2018). Esmaeil Nia and colleagues (2018) presented a model for excellence in virtual education at Farhangian University for human resource development and concluded that causal conditions (teaching and learning activities, human actors, management), the main category: excellence in virtual education at Farhangian University (quality improvement), strategies (micro-level, mid-level, macro-level), contextual conditions (nature of Farhangian University's virtual education), intervening conditions (internet, hardware facilities, web), and consequences (individual, organizational, and supra-organizational outcomes) constitute the model of virtual education (Esmaeilnia et al., 2018). Bailey and Lee (2020) found that those with online teaching experience perceive fewer barriers and engage in a broader range of communications and activities when doing so (Bailey & Lee, 2020). Aboagye and colleagues (2020) concluded that the main challenge for students studying online is access issues, followed by social issues, issues related to lecturers, academic issues, and general problems (Aboagye et al., 2021). The role of infrastructure in further development and growth of this education was also considered significant and noteworthy. Kabritch and colleagues (2017) found that issues related to online learners, instructors, and content development; learners' issues including expectations, readiness, identity, and participation in online courses are among the main topics of virtual education (Kebritchi et al., 2017).

As human resource management in any department and organization strives to place training and development of human resources at the forefront of their activities, and conducting training classes and inviting distinguished professors for training professors and employees require a lot of time and money, the time constraints of professors and employees for participating in training classes should not be overlooked. Using the internet and modern technologies for training professors and employees not only saves time and costs for the organization but also allows professors and employees to learn through the internet at a suitable time. If professors and employees find this learning method beneficial and easy and have a positive attitude towards it, they will be inclined to continuously use this learning method and their satisfaction with this method will increase. Utilizing quality virtual education at Farhangian University can contribute to the branding of Farhangian University and make it a priority choice for outstanding students interested in the teaching profession. An increasing number of universities in Iran have started offering virtual education courses. Despite Farhangian University providing a suitable foundation for these teachings, it has not yet been able to institutionalize proper and comprehensive quality education. Given the issue that the quantitative growth of virtual education is progressing, but improvement in education has not occurred. Therefore, the primary goal of this research is to present a model of virtual education using the Interpretive Structural Modeling (ISM) method at Farhangian University.

## 2 Methods and Materials

The current research methodology was qualitative and applied in nature. Participants in the study included faculty members of Farhangian University in Khorasan Razavi province, selected purposively with a sample size of 13 based on entry criteria. It should be noted that in this study, the entry criteria included theoretical expertise in the current research domain, practical experience at Farhangian University, willingness and ability to participate in the research, having at least 10 years of faculty experience at the university, holding a doctoral degree, being accessible, and having sufficient time to participate in the research.

The research tool was semi-structured interviews, the validity of which was based on face validity, and reliability was also determined by the agreement coefficient between coders, resulting in a 0.85 upon re-coding between the researcher and an external coder. Additionally, a researcher-developed questionnaire was designed based on qualitative findings and distributed among the sample members. Data analysis employed coding analysis, and for the initial stage of identifying factors, the Interpretive Structural Modeling (ISM) method was used.

## 3 Findings and Results



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In the research sample, 9 participants (70%) were male, and 4 (30%) were female. Regarding academic rank, 7 (53%) were assistant professors, 5 (39%) were associate professors, and 1 (8%) was a full professor. Age-wise, 6 participants (47%) were between 40 to 44 years old, 5 (38%) were between 45 to 50 years, and 2 (15%) were above 50 years. In terms of service history, 7 participants (53%) had 5 to 10 years of experience, 4 (32%) had 11 to 15 years, and 2 (15%) had over 20 years of experience.

**Table 1**

*A Summary of The Results of Qualitative Analysis*

| Main Category | Subcategory |
|---|---|
| Pedagogical Factors | Design and implementation of courses based on objectives |
| | Web-based design principles |
| | Quality, up-to-dateness, and credibility of content |
| | Comprehensive cognitive learning package |
| | Active and effective learning |
| | Selection of appropriate educational media |
| | Learning and teaching strategies |
| | Flexibility and adaptability |
| | Evaluation and feedback provision |
| Technological Factors | Education based on web-based information systems |
| | Availability of required software and hardware for virtual classes |
| | Communication technologies and electronic collaboration |
| | Existence of useful tools for education |
| | Computer literacy |
| | Technical support and updating the interface and content |
| Organizational Factors | Vision, mission, and organizational goals |
| | Infrastructure, organizational structure, and support system |
| | Investment and financial preparations |
| | Increasing agility in operational activities |
| | Moving towards horizontal organizational structures |
| Integrated Management | Existence of independent organizations in virtual education |
| | Efficient use of resources |
| | Organized collaboration |
| Futuristic Vision | Creating a uniform educational environment for students |
| | Enriching human capital |
| | Growth and synergy in educational activities |
| | Opportunity to access higher education |
| | Change in traditional education systems |
| | Expansion of educational services and versatility |
| | Creating a collection of the best expertise and scientific and educational experiences |
| | Rapid change and easy adaptability |
| | Increased service to learners |
| | Supportive tool for the educational community |
| Targeted Educational Quality | Learning beyond content |
| | Moving from rote memorization to learning how to explore and learn |
| | Maintaining educational competencies |
| | Using a facilitative approach to education |
| | Student interaction and participation in the learning process |
| | Creating educational quality and effectiveness in different areas |
| Measurability | Formative and summative assessment |
| | Existence of formative feedback on student progress |
| | Equal and fair educational perspective |
| | Existence of useful tools for identifying factors affecting educational success |
| | Performance support systems |
| | Reproducibility and problem resolution |
| Flexibility in Education | Flexibility in content modification or change |
| | Accelerating education |
| | Use of experienced professors in broader fields |
| Support Services | Student support services |



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| | |
|---|---|
| | Faculty support services |
| | Support services for teaching and learning |
| Knowledge Management | Knowledge sharing between universities and centers |
| | Focus on knowledge production rather than unilateral transfer |
| | Participation in knowledge sharing |
| | Minimizing complexity and uncertainty |
| | Delegation of activities to other organizations |
| | Offering more flexible educational programs |
| | Encouraging student participation regardless of their geographic dispersion |
| Ease of Access | Easy access at any time and place |
| | Accessibility for all interested in learning (wide range) |
| | Fairer distribution of education and equal access |
| | Providing a framework for reducing learner anxiety |
| | Addressing issues of leave for external training |
| | Ease of simultaneous access to databases and knowledge sources |
| | Cheaper, better, and more learning |
| Information and Content | Utilizing necessary technologies for information conversion |
| | Comprehensiveness of information |
| | Updating collected information |
| | Regular and annual information dissemination |
| | Saving time and energy |
| | Creating a data processing structure |

Table 1 presents the coding process. The results of Table 1 indicate that 71 indicators and 12 main themes were identified for the virtual education model from the interviews, including (pedagogical factors, technological factors, organizational factors, integrated management, futuristic vision, targeted educational quality, measurability, flexibility in education, support services, knowledge management, ease of access, and information and content).

Subsequently, the interpretive structural modeling (ISM) method was used for leveling the identified factors. In the first step of the process, several relationships had less than 50% consensus among the Delphi panel (less than 7 out of 13 members agreed on a relationship); therefore, these relationships were re-submitted to the panel members for achieving expert panel consensus. It is noteworthy that the criterion for selecting the type of relationship between two factors was the mode (most frequency). The results of the second step had over 50% consensus, and the final self-interactive structural matrix is presented as Table 2.

**Table 2**

*Final Self-Interactive Structural Matrix*

| Factor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pedagogical Factors | V | V | V | V | V | V | V | V | O | V | X | |
| Technological Factors | O | O | V | V | V | V | O | V | O | X | | |
| Organizational Factors | O | V | V | V | V | O | O | V | A | | | |
| Integrated Management | O | O | O | O | O | V | O | V | | | | |
| Futuristic Vision | A | A | A | A | A | A | A | | | | | |
| Targeted Educational Quality | X | O | O | O | O | X | | | | | | |
| Measurability | O | A | O | A | O | | | | | | | |
| Flexibility in Education | V | A | V | V | | | | | | | | |
| Support Services | A | A | A | | | | | | | | | |
| Knowledge Management | V | V | | | | | | | | | | |
| Ease of Access | V | | | | | | | | | | | |
| Information and Content | | | | | | | | | | | | |

To obtain the reachability matrix, the symbols of the SSIM matrix relationships need to be converted to zero and one according to the following rules: a) If the symbol in cell (ij) equals V, then the value of that cell is 1, and its mirror cell is 0. b) If the symbol in cell (ij) equals A, then the value of that cell is 0, and its mirror cell is 1. c) If the symbol in cell (ij) equals X, then the value of that cell and its mirror cell is 1. d) If the symbol in cell (ij) equals O, then the value



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of that cell and its mirror cell is 0. The result of this stage is the reachability matrix, presented in Table 3. In the reachability matrix, the driving power and the level of dependency of the elements on each other are derived from the sum of 1s in rows and columns, respectively.

**Table 3**

*Initial Reachability Matrix*

| Factor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pedagogical Factors | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| Technological Factors | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 |
| Organizational Factors | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Integrated Management | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| Futuristic Vision | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Targeted Educational Quality | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Measurability | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Flexibility in Education | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Support Services | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Knowledge Management | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Ease of Access | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Information and Content | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |

Table 4 shows the adjusted reachability matrix along with the influence power and dependency level of each factor. The cells marked with a star had a value of zero in the original reachability matrix and were assigned a value of 1 after alignment.

To determine the level and prioritization of variables in the final model, the following sets are initially formed for each variable: Reachability Set: The set of variables that can be reached through this variable + the variable itself. Antecedent Set: The set of variables through which this variable can be reached + the variable itself. Intersection Set: The set of common elements of both the reachability and antecedent sets. Then, in the first table, the variable with the highest level will be one whose reachability set and intersection set are exactly the same. After determining this variable or variables, they are removed from the table, and the next table is formed with the remaining variables.

**Table 4**

*Adjusted Reachability Matrix*

| Factor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Driving Power | Dependency |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pedagogical Factors | *1 | *1 | 1 | 1 | 1 | 1 | *1 | 1 | 0 | 1 | 1 | 1 | 11 | 7 |
| Technological Factors | *1 | 1 | 1 | 1 | 1 | *1 | *1 | 1 | 1 | 1 | 1 | *1 | 11 | 7 |
| Organizational Factors | *1 | *1 | *1 | *1 | *1 | 1 | *1 | 1 | 1 | 1 | *1 | *1 | 11 | 7 |
| Integrated Management | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 4 |
| Futuristic Vision | 1 | 0 | 0 | *1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 5 | 4 |
| Targeted Educational Quality | *1 | 0 | 0 | *1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 5 | 4 |
| Measurability | 1 | *1 | 1 | 1 | 1 | *1 | *1 | 1 | 0 | 0 | 0 | 0 | 8 | 4 |
| Flexibility in Education | *1 | 0 | 0 | 1 | 0 | 1 | *1 | 1 | 0 | 0 | 0 | 0 | 5 | 4 |
| Support Services | 1 | 1 | 1 | 1 | *1 | *1 | *1 | 1 | 0 | 0 | 0 | 0 | 8 | 4 |
| Knowledge Management | 1 | 1 | *1 | 1 | 1 | 1 | *1 | 1 | 0 | 0 | 0 | 0 | 8 | 4 |
| Ease of Access | 1 | 0 | 0 | 1 | 0 | *1 | 1 | 1 | 0 | 0 | 0 | 0 | 5 | 4 |
| Information and Content | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 5 | 4 |

*Indicate a value of 1 obtained after adjustment.

After determining the relationships and levels of the variables, their relationships and levels can be depicted as a graph. To this end, first, arrange the variables according to their levels from top to bottom and then draw relationships between variables according to the aligned reachability matrix. The final model is obtained by removing transition relationships. The resulting ISM process model was presented to experts and modified based on their feedback. Figure 1 shows the final model of the structure of virtual education components at Farhangian University.



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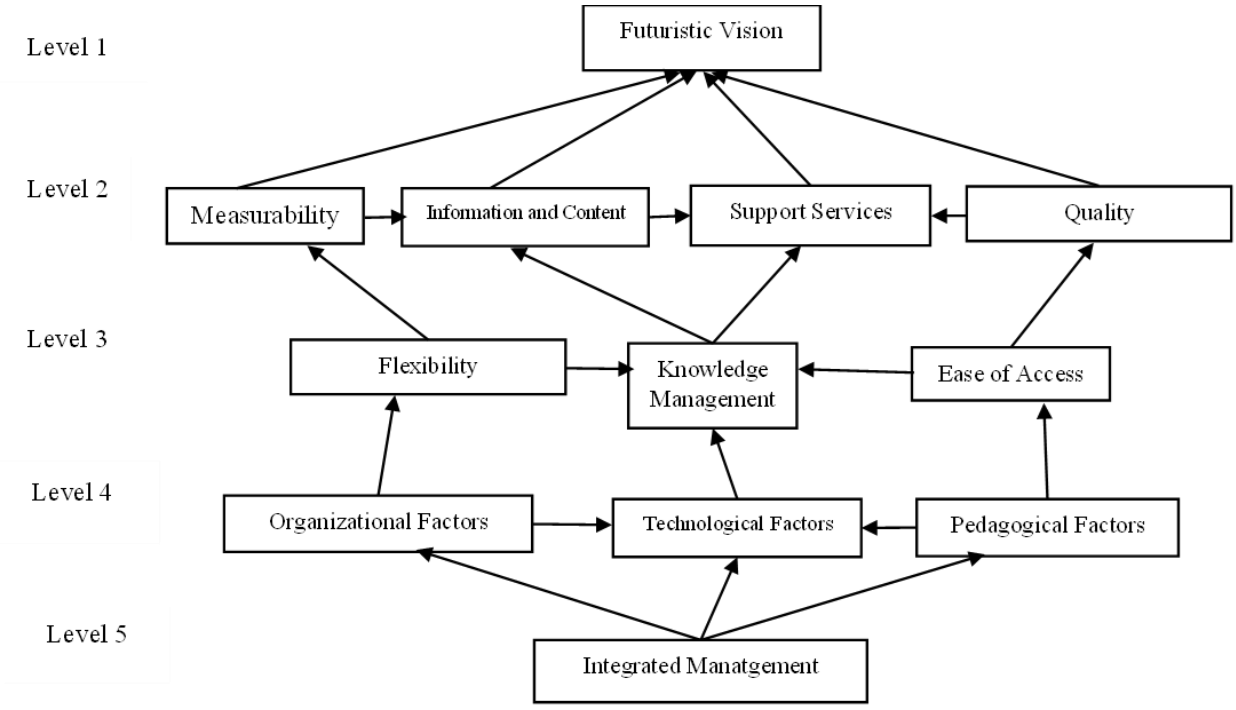
**Figure 1**

*Final ISM Process Model*




## 4 Discussion and Conclusion

The primary goal of this research was to present a model for virtual education using the Interpretive Structural Modeling (ISM) method at Farhangian University in Khorasan Razavi. The findings of this study revealed that the virtual education model comprises five levels and priorities, including Level One: Futuristic Vision; Level Two: Targeted Educational Quality, Measurability, Support Services, and Information and Content; Level Three: Ease of Access, Knowledge Management, and Flexibility in Education; Level Four: Pedagogical, Technological Factors, and Organizational Factors; and Level Five: Integrated Management. These results align with several studies (Babazadeh et al., 2022; Farhangi et al., 2018; Mazloom Ardekani et al., 2018), who concluded that individuals with online teaching experience perceive fewer barriers and engage in a broader range of communications and activities. The results are also consistent with the findings of Kabritch et al. (2017) (Kebritchi et al., 2017).

Discussing pedagogical factors, it can be said that needs assessment of the audience and setting educational goals are among the most important steps in instructional design with all psychological approaches, and the electronic learning environment is no exception to this rule. In electronic learning environments, curriculum objectives should be developed and analyzed in line with approaches suitable for these environments, and educational elements should be organized using technological capabilities to encourage active learning and provide various pathways and opportunities for personalized learning, interaction, and collaboration. The philosophy behind creating a learning environment and virtual education differs from conventional learning environments and thus requires a design that matches its characteristics.

In explaining technological factors, it should be noted that technological factors, along with pedagogical factors, form the foundation of virtual learning and educational environments, and few studies on the quality in these environments neglect their importance. Essentially, the existence of virtual learning and education environments is dependent on technology, and accessibility in virtual education ensures that the environment is accessible to authorized users at any time and place. Furthermore, reliability indicates that software issues in the system can be resolved, and the e-learning system software should be capable of handling errors, storing, and recovering data after an error occurs. Additionally, technological support resolves



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potential problems faced by instructors, learners, and instructional designers during the course, ensuring swift measures to address issues. Technical and technological services also include all services provided by the virtual learning and education system to students to ensure the quality of the technological aspects of the system.

Regarding organizational factors, it can be inferred that these factors encompass components necessary for initiating virtual education in an organization. Determining vision, mission, and organizational goals are among the most critical steps in strategic planning, with both vision and strategy playing a fundamental role in empowerment and inspiring change in values that lead to organizational transformation. In fact, choosing a vision and strategy are key decisions for an organization's transformation and renewal. Budgeting and spending based on organizational goals and missions in line with the organizational vision is an essential managerial task, and ensuring necessary infrastructure for successful education delivery is an organizational factor that, along with providing required resources, can guarantee quality in virtual learning and education environments.

Regarding the theme of futuristic vision, it can be said that futurism is a systematic effort to outline the quality and quantity of current changes and non-changes and their impact in creating future realities. Futurists strive to analyze the source, patterns, and causes of change and stability to enhance forecasting and envision alternative futures. They assess the likelihood of certain events occurring in the future and the possible options ahead of us. In today's rapidly changing world, futurism and organizing scientific and research activities to predict the future are indispensable. Therefore, if educational systems, including universities, are not based on futurism, they cannot provide much useful output. Without utilizing the principle of futurism, many opportunities are lost without yielding any notable achievements, preventing movement towards wealth creation, entrepreneurship, and value creation.

In terms of the theme of targeted educational quality, it can be deduced that to design education in a virtual environment, it is necessary to understand the capabilities and possibilities of this environment and select an educational theory appropriate to it. The facilities of this technology present learning content in multiple ways to the learner, and learning activities based on it are very diverse and extensive. Communication facilities allow learners to interact at any time and from any place with people, guides, and various resources. Optimal use of these facilities requires selecting a learning theory appropriate to that environment to encourage the learner to engage in interaction and knowledge construction. Instructional design, understanding the capabilities of this learning environment, and selecting an appropriate learning theory can organize educational elements such as objectives, content, learning activities, teaching methods, and evaluation strategies in a way that achieves the desired learning outcomes of the educational course.

Regarding the theme of knowledge management, it can be said that knowledge management in virtual organizations is one of the new approaches in this field, and a fundamental challenge in knowledge management is accurately understanding the concept of knowledge. Given the vast knowledge bases in a virtual organization, attention to knowledge management processes and tools is crucial. Individuals in virtual organizations are distant from each other and work without any fixed time framework, hence managing them correctly requires a new paradigm and technology appropriate to it. Since virtual systems and platforms may not be suitable for all employees, employees must possess specific characteristics to effectively operate in a virtual environment.

The main objective of this research was to present a model for virtual education using the Interpretive Structural Modeling method at Farhangian University in Khorasan Razavi. It was observed that easy access, at any time and place, is vital due to its ability to allow all interested in learning to access information anytime and anywhere, promoting fairer distribution of education and equal access, providing a framework to reduce learner anxiety, and facilitating simultaneous access to databases and knowledge resources. It was also important for managing schedules and resources, learner-centeredness, flexibility, communication tools, assessment, learning methods and strategies, organization, design methods, analysis of goals, media analysis, learner analysis, and content analysis. Principles, technology, assessment tools, virtual quality, time management, labor market management, virtual thinking and ethics, priority of education, and virtual experiences play a significant role in accessibility and ease of access.

## 5 Limitations and Suggestion

One limitation of this study is related to its research approach. Since qualitative research examines the phenomenon within the context in which it occurs, the generalizability of results and findings to other conditions



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and situations is limited. Also, in qualitative research, the possibility of the researcher's preconceptions and biases affecting the findings and results exists. However, in this study, an effort was made to observe and document the experiences and observations of the participants without bias. Future researchers are recommended to conduct studies on the implementation of virtual education at Farhangian University and effective virtual education in other organizations. Managers, officials, and planners at Farhangian University can enhance the current state of education, particularly virtual education, according to the designed virtual education model. To achieve goals and solve problems and challenges, Farhangian University should pay special attention to themes like pedagogical factors, technological factors, organizational factors, integrated management, futuristic vision, targeted educational quality, measurability, flexibility in education, support services, knowledge management, ease of access, information, and content, while recognizing that the human resource of an organization is responsible for achieving its goals. Therefore, managers and planners at Farhangian University should pay attention to these extracted themes and provide the necessary conditions, facilities, and resources for their realization.

**Acknowledgments**

The cooperation of all participants in the research is thanked and appreciated.

**Declaration of Interest**

The authors of this article declared no conflict of interest.

**Authors Contributions**

Mohammad Delghandi led the research project, playing a pivotal role in shaping the research methodology, selecting faculty participants, and overseeing data collection through semi-structured interviews and questionnaires, resulting in the development of a comprehensive virtual education model. Mohammad Karimi actively contributed to refining the research methodology, engaging in participant selection, designing data collection tools, and conducting data analysis, providing crucial insights for educational quality improvement. Hassan Nodehi significantly aided in the qualitative and applied research approach, assisting in participant selection and contributing to data analysis, thereby enhancing the model's depth and robustness. Moslem Cherabin, with expertise in methodology design and data analysis, enriched the understanding of virtual education, culminating in the provision of a framework for enhancing educational quality within the university context.

**Ethical Considerations**

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

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