



Development of an Appropriate Model in the Preparation of Knowledge Management Software in Iran

Samaneh Rahimian^{1*}, Hamid Reza Mahmoodi²

1. PhD student in Information and Knowledge Management, Tarbiat Modares

2. PhD student in Information and Knowledge Management, Tarbiat Modares University.



How to Cite: Rahimian, S., Mahmoodi, H. (2022). Development of an Appropriate Model in the Preparation of Knowledge Management Software in Iran. *International Journal of Knowledge Processing Studies*, 2(3), pp. 41-52.

Publisher:

Ayande Amoozan -e- ATA (AAA)



<https://doi.org/10.22034/kps.2022.149699>

Received: 2022/04/26; **Revised:** 2022/04/29 **Accepted:** 2022/05/08; **Published Online:** 2022/05/12

Abstract

Purpose: This study aimed to identify and study the features and capabilities of common knowledge management software and its components in Iran. Then, a suitable model for producing knowledge management software for Iranian companies and organizations was presented.

Method: This study is a two-dimensional (basic-applied) research in terms of purpose and documentary-library research in terms of the method of collecting information. The statistical population is all knowledge management software, the number of which is unknown. A total of 12 common and widely used softwares were selected by available methods. Colaizzi's descriptive phenomenological approach was used to analyze the content. Validity and reliability were used through 4 criteria of credibility, reliability, verifiability, and transferability.

Findings: As a result of content analysis of sites related to knowledge management software, 120 categories or initial code and 40 indicators or final concepts were identified. After screening and refining the initial codes and indicators, the number of initial codes was reduced to 83, and the number of final indicators or concepts to 27 concepts.

Conclusion: In the study, several common knowledge management software in Iran have been identified and their modules have been studied. Considering the culture, structure, and needs of organizations, and also considering the challenges faced by the knowledge management process in the organization, a suitable model for providing knowledge management software has been provided.

Authors

Keywords: Organization, Knowledge Management, Knowledge Management Software.

Corresponding Information: Samaneh Rahimian, PhD student in Information and Knowledge Management, Tarbiat Modares. (sa64rahimian@gmail.com)

1. Introduction

In post-industrial society today, knowledge has been converted into a key source of economics. In the confrontation with global competition and dynamic environments, organizations are advised to use the expertise and skills of people with

diverse talents to access new markets and new technologies. Large hierarchical organizations that were once considered impenetrable in terms of their physical facilities and extensive technology infrastructure, today have faced difficulties in responding to unsustainable markets as well as



meeting customer needs in terms of rapid delivery of goods and services. Survival in complex and dynamic environments is essential for organizations to have the necessary agility and flexibility, as well as to work in knowledge management. Therefore, to achieve its goals, the organization uses a set of knowledge that is accumulated in each individual and their minds. If you do not use this knowledge, you can expect organizational failure or high costs due to the repetition of some decision-making processes and improper use of empirical records and decisions. For this reason, leading organizations are collecting latent knowledge from staff and workgroups called "knowledge capital", and knowledge management software is a good platform to increase the interactions of this knowledge capital and support the knowledge management process. The software is several modules, each of which is designed to cover one of the five main elements of the knowledge cycle, including knowledge identification, knowledge creation, knowledge storage, knowledge sharing, and knowledge application. In the present age, which is known as the age of communication and knowledge, the main advantage lies in knowledge capital. In today's advanced world, knowledge is rapidly becoming the main competitive advantage of organizations. Knowledge can be a good opportunity for an organization that knows and manages it well, and at the same time, can be considered a serious threat to an organization that does not know or does not want to know the changes in the environment. Information and effective access to it is also one of the key elements of progress and development so that all social, economic, political, cultural, educational, and biological processes are in dire need of information. Rapid advances in information and communication technology and the possibility of rapid and wider access to the world of information have opened a new horizon for professionals and managers.

Recognition of knowledge as an organizational resource, theories of growth as well as the emergence of knowledge-based organizations, all helped to create a new field of knowledge management in information systems. These developments show that knowledge in various forms is human assets and capital, and investing in

it directly leads to goods and services or high technology.

Along with other factors of production, knowledge, and capabilities created by it is also one of the increasing revenues of the organization. In organizations, despite the very high volume of information and knowledge and the use of new information and communication technologies, the necessary and sufficient information is not provided to applicants. Knowledge management is one of the appropriate solutions to achieve usefulness and efficiency in organizations (Farahani, 2009). The classic one-line definition of Knowledge Management was offered up by Tom Davenport early on (Davenport, 1994): Knowledge Management is the process of capturing, distributing, and effectively using knowledge. Peter Drucker (1994), whom many consider the father of KM, best defines the need for it the coordination and exploitation of organizations' knowledge resources, to create benefit and competitive advantage. Liu et al. (2018) define knowledge management as not only the management of tangible content but also the extraction of information from existing raw data and its organization and systematization. Hassanzadeh (2007) defines a comprehensive definition of knowledge management as follows: Knowledge management is the practice of managing and paving the way for the conversion of knowledge (hidden to explicit and vice versa) within an organization through the collection, sharing, and use of knowledge as an organizational asset to achieve the goals of the organization. Therefore, knowledge management is a process of helping organizations to identify, select, organize and publish important information and skills, which are considered a type of organizational memory and exist usually unorganized. This issue enables the organization to solve learning issues, strategic planning, and dynamic decisions efficiently and effectively.

Based on the definitions of knowledge management, it can be concluded that knowledgeable organizations do not consider knowledge management as a goal, but as a tool for acquiring and applying knowledge within the organization. Therefore, why and how to use knowledge management software has always been



a concern of these organizations. Also, the knowledge management process typically faces six challenges, and the inability to respond to these challenges reduces the organization's ability to use its knowledge assets. These six challenges are:

1. Acquisition of knowledge: The challenge is to collect information from various sources and codify it so that it can be used as knowledge. This may require documenting existing knowledge, identifying gaps in existing knowledge, and gathering knowledge from a variety of sources, such as experts or sources in information networks.

2. Knowledge modeling: Modeling actually fills the gap between knowledge acquisition and use. Knowledge models must represent knowledge in a way that can be used to solve a problem. One of the models of knowledge is an anthology, which in addition to acting as a retainer for organizing knowledge, provides a framework for understanding how knowledge is used.

3. Knowledge retrieval: When a knowledge repository becomes very large, it will be very difficult to find any particular piece of knowledge in it. There are two issues with knowledge retrieval. The first issue is access to or re-access to knowledge after its registration and understanding of the mechanism that has been devised for this purpose. The second issue is to achieve that set of content related to a particular issue.

4. Reuse of knowledge: One of the most serious obstacles to the cost-effective use of knowledge is that knowledge bases are usually rebuilt.

5. Dissemination of knowledge: The challenge of disseminating or distributing knowledge can be described as follows: "Delivering the right knowledge, with the right representation, in the right place, to the right person and at the right time.

6. Knowledge retention: The last challenge is maintaining the performance of the knowledge base. This is a case of constant updating of knowledge. Knowledge may have a long or short validity period; in which case it is essential to know which parts of the knowledge need to be updated and which parts can be removed. Knowledge validation is also one of the activities related to knowledge retention (Hashemi, Mohammadi Moghadam, and Mohammadi Moghadam, 2011).

It will not be possible to overcome any of the above challenges without the efficient use of

appropriate knowledge management software, widely and sustainably at the organizational level. Some of the reasons for this are:

- Gathering knowledge from various sources is almost impossible without mechanized solutions, and in addition, after gathering knowledge, there is a need for a knowledge repository to store it for future use.

- knowledge management software helps keep documentation up to date, assists customers in finding their answers, and manages knowledge access and permissions across user groups.

- Help employees grow with train employees and helping them develop their skills in a standardized way

- Improve the organization's efficiency with save time and money by helping the team find solutions by themselves

- Knowledge access and retrieval are difficult without knowledge management software.

- Using the right knowledge management software can increase the rate of knowledge reuse many times over.

- knowledge management software is a platform that helps get the right knowledge to the right people, at the right time.

- Disseminating knowledge on a large scale, without a software solution, is very difficult, costly, and possibly inefficient (Hashemi, Mohammadi Moghadam, and Mohammadi Moghadam, 2011).

Accordingly, if knowledge management is considered in the true sense of the word in an organization and its processes are well implemented in the organization, the appropriate software solution will be one of its essential components without which all knowledge management efforts will be fruitless. Also, due to the rapid and increasing growth of knowledge management software and the lack of awareness of some companies and organizations of knowledge management software modules appropriate to their needs, this study tries to investigate the features and facilities of common knowledge management software in Iran, a suitable model to produce a knowledge management software for Iranian companies and organizations.

2. Literature Review



Ong et al. (2021) in a paper designed and developed a framework of a dynamic web-based knowledge management system with a Chatbot application to utilize the information-sharing platform to disseminate knowledge and build networks among small-scale farmers and related experts for Malaysian farmers. An information-sharing platform is prominent to disseminate information and knowledge among farmers, especially for most of the young farmers who have issues when they are newly started involved in the agriculture field.

Santoro (2020) in a paper compares and analyzes knowledge management software in Vietnam. This article examines the current state of application of knowledge management software at both Y&E and Unilever in Vietnam. A comparative analysis of the use of knowledge management software in Y&E and Unilever in Vietnam, the development of proposed solutions to improve the use of knowledge management software in Vietnamese companies to find the reality of using knowledge management software in Y&E and Unilever in Vietnam is significant.

In a paper, Santoro et al. (2018) discuss the IoT and the creation of a knowledge management system for open innovation and knowledge management capacity. The main purpose of this study is to investigate the relationship between knowledge management systems, open innovation, knowledge management capacity, and innovation capacity. To achieve this goal, the research uses structural equation modeling on a sample of 298 Italian companies from different sectors. Findings indicate that the knowledge management system facilitates the creation of internal and participatory ecosystems and the use of internal and external flows of knowledge by developing the capacity of internal knowledge management, which in turn increases the capacity for innovation. This research mostly uses its findings to identify important scientific and managerial implications and prescribe for future research.

Sharif and Hosseinghlizadeh (2016) in a paper identify and cluster personal knowledge management systems and tools. First, by referring to the research literature, the list of personal knowledge management systems and tools was identified and based on the seven personal knowledge management skills as well as the three

domains of personal knowledge management, by a purposeful sample of 30 computer and information science and cluster specialists were classified. According to the findings obtained in the first stage, 47 tools were identified and based on the views of experts were included in the list of personal knowledge management systems and tools. Then, in the second stage, based on their application, they were clustered under the headings of knowledge retrieval systems and tools, knowledge organization, knowledge evaluation, knowledge analysis, knowledge dissemination, knowledge sharing, and knowledge security. In addition, the set of tools was classified into three areas: public, interactive, and personal from the perspective of experts.

Ram Panahi, Nezafati, and Siadat (2015) in a paper have evaluated the modules of knowledge management systems to implement knowledge management 2.0 in the organization. This study aimed to design an organizational knowledge management system based on Web 2.0 tools (Knowledge Management System 2.0), by trying to evaluate the modules of knowledge management systems to implement and implement knowledge management 2.0 better in Help the organization. In this regard, by reviewing the existing literature on knowledge management 2.0 and Web 2.0 tools, four dimensions (features) of knowledge management 2.0 have been extracted and after reviewing several knowledge management systems and organizational social networks, 19 main modules and Influential in knowledge management have been selected. Finally, by classifying the modules in four extractive dimensions, using the hierarchical analysis process method, the modules are ranked in each dimension, and based on the final weight, all the modules are in order of importance in implementing knowledge management 2.0. They were ranked in the organization. Findings show that "collaboration" is the most important feature in knowledge management 2.0 and after that link building is emphasized; Also, the modules "Idea Presentation", "Knowledge Repository", "Knowledge Map Presentation", "Group Creation", "Project" and "Feedback Presentation" are recognized as six priority modules in knowledge management system 2.0 design, respectively. Is. Due to the importance



of the "collaboration" dimension in 2.0T knowledge management, its related modules are also among the top 5 modules.

Mohammadzadeh, Durrani, and Sabbagh Gol (2015) in a paper comparing knowledge management software by performance. In this paper, the amount of knowledge management software is examined. The process of selecting knowledge management software in this research includes the need for business, search team, evaluation of infrastructure, software resources and requirements, request for bidding session, review of eligibility and vendor document, and the criteria for final selection of software. Finally, this software has been compared based on the specifications of how to publish, plot collection, organization, and share.

The extant literature reviewed shows that there is little research done in the field of knowledge management software modules. Most of the papers are done in the field of knowledge management systems in organizations, how to design an organizational knowledge management system, and knowledge retrieval systems and tools. Therefore, in this paper, researchers try to identify common knowledge management software and investigate modules of them. So that, helps organizations choose the right software basic on their purpose and strategy of them.

3. Method

This research is two-dimensional (basic-applied) in terms of purpose and documentary-library research in terms of the method of collecting information. Existing documents have been examined to collect information. The statistical population is all knowledge management software in Iran, the number of which is unknown. To select the research sample, researchers tried to select the common software, which is used by many organizations and companies. The determination of the number of software continued until its modules were repeated and reached theoretical saturation. Finally, a total of 12 common and widely used software were selected by the available method.

Table 1. List of common knowledge management software in Iran

Row	software name	Address link
1	ERP	https://www.teamyar.com/
2	MTA Share	https://mta.co.ir/
3	NADIN	https://www.armanet.ir/software/
4	HERMAN	https://persica-hr.com/
5	NODAK	https://nodak.ir/
6	DANA	https://www.danakm.com/
7	ASIST Desk	https://redment.org/fa
8	DAITYC	https://daityc.com/knowledge-future/
9	AHARSoft	https://doctorjs.ir/
10	RAAVAN	http://raavan.ir/
11	IRANLARAVEL	https://www.iranolaravel.ir/
12	SEPEHRMAHAN	https://www.sepehrmahan.com

4. Findings

To analyze the information, the descriptive phenomenological approach of Colaizzi has been used. Also, to ensure the validity and reliability of the findings of the above research, four criteria of validity or acceptability, reliability-stability, verifiability, and transferability or appropriateness were used. In our study, we adapted the criteria point by point by selecting those strategies that were applied to our study systematically. Thus, the relevant modules of each software were reviewed and a checklist of these modules was prepared for each software. The obtained modules were coded through MAXQDA 18.0 software. In such a way that the extracted codes are extracted from the modules related to each software and similar concepts are encoded in the form of a code as much as possible. Next, the concepts proposed at this stage were compared with each other and after placing similar items around a common axis, they formed broad classes. After analyzing the content of sites related to knowledge management software, 120 categories or initial code and 40 final indicators or concepts were obtained. After screening and refining the initial codes and indicators, the number of initial codes was reduced to 83, and the number of final indicators or concepts to 27 concepts.

Table 2. Conceptualization of research data

Row	Concept	Category
1	Preparation and updating of knowledge maps	-Use of anthologies - Support for tree structures - Create multiple paths for quick



		access to existing content -Knowledge map with the ability to display experts - Knowledge maps			not risky -Ability to create / help develop knowledge -Ability to encode / organize knowledge -Ability to distribute / deliver / disseminate knowledge
2	Specialized Expert Forums	-Continuation of the topics of specialized working group meetings - Identify experts related to the topic - Collecting and recording expert answers and informing questioners - Increasing the quality and cooperation of staff by standardizing work methods and the possibility of talking to prominent experts through the forum	12	Creative reporting	-Dynamic reporting of changes in knowledge management performance indicators -Statistical reports on the status of knowledge, users, knowledge fields and units - Ability to create a variety of analytical and combined reports - Ability to obtain a variety of reports on user performance
3	Ability to obtain knowledge from social networks	- Online Conversation -Interactive capabilities such as likes, hashtags, comments on each user's profile	13	Comprehensive management	- User and content management - Monitor the production of user content - Monitor all types of reports - Expertise Association Management -Definition and management of units, knowledge fields and projects of the organization - Perform knowledge cycle and documentation settings - The possibility of implementing various types of matrix protection classifications on confidential knowledge
4	Ability to obtain and share knowledge in various formats	- Text sharing, audio-video knowledge -Ability to share information in the form of news and articles	14	Training support	- Answering users' questions in interaction with new systems - Gamification - Optimizing the training process -Training business and marketing rules -Technical training and production skills
5	Ability to classify knowledge	-Classification of documents - Summaries of documents - reporting	15	Reward system	- Earn more rewards by more skilled people or better performance - Motivation and appreciation based on knowledge performance - Financial incentives
6	Possibility of smart questions and answers	- Ability to ask and answer questions and post and comment	16	Facilitate teamwork	- Participation of people in editing posts - Carrying out intra-organizational working group - Create interactive specialized groups -Forums
7	Advanced search and access	- Ability to search based on keywords, hashtag, knowledge tree, user ...,	17	Constant updates	- Added new modules - Bug fixes -Optimization
8	Ability to evaluate knowledge management	- Creating a questionnaire, assessment, test plan and test in different branches and categories	18	Ability to coordinate and execute	-Ability to coordinate software systems with new systems -Ability to run on the web -Support the organization's internal networks of new systems - Ability to set up multiple servers and services simultaneously -Possibility of access through intranet, internet and extranet
9	Facilitate access to resources	- Email - Thematic discussion groups - video conference -Creating a specialized culture of knowledge management and providing explanations about it - Access to information and articles tailored to the needs of users	19	Ensuring security and trust of	- Ensure you receive the right information from
10	Personal knowledge management support	- Use content tagging - Use social bookmarks - Designing users' personal knowledge pages			
11	Comprehensive knowledge	-Ability to cooperate with universities and research institutes - Employees' access to a knowledge bank related to their field of work -Ability to acquire / gather knowledge - Proper performance of the organization in adapting new ideas - Encourage new ideas if they are			



	people	employees and customers - Formation of friendly organizational relationships - Increase happiness and retain employees due to knowledge valuation
20	Developable architecture	- Existence of extensibility tools - Existence of customization tools
21	Information exchange / integration	- Integration with Office suite - Exchange information with other software - Create knowledge profiles of users - Use CMS (content management systems) such as blogs, groups and communities, forums, etc. to receive experiences, conversations and lessons learned by members of the organization
22	Decision support	- Apply knowledge in order to provide the best decision support
23	Documentation management	- Existence of technical documents and educational resources - Ability to search within documents - Project documentation management, classification and registration of documents of implemented projects - Ability to edit documents and texts Ability to record, archive and store documents with the ability to set the features of it
24	Security and protection of resources	- Reduce the complexity of knowledge security - Provide high-level controls for the security of the organization's resources
25	User friendliness	- Accelerate user work - Use of fast algorithms to increase the speed of application - Attractive graphics - Speed up and improve decision making
26	Triple Synergy	- Involve the organizational structure - Harmony with organizational culture Involve the organizational process
27	Customer Orientation	- Customer recognition - Tips on how to succeed in commercialization - Possibility of marketing products - Provide functions to increase customer satisfaction

In the last step, the data obtained from XMind software was used to draw a proposed pattern. Figure 1. The output image of the above software shows the proposed model of this research to provide a suitable model for producing knowledge

management software for companies and organizations in Iran.

Discussion

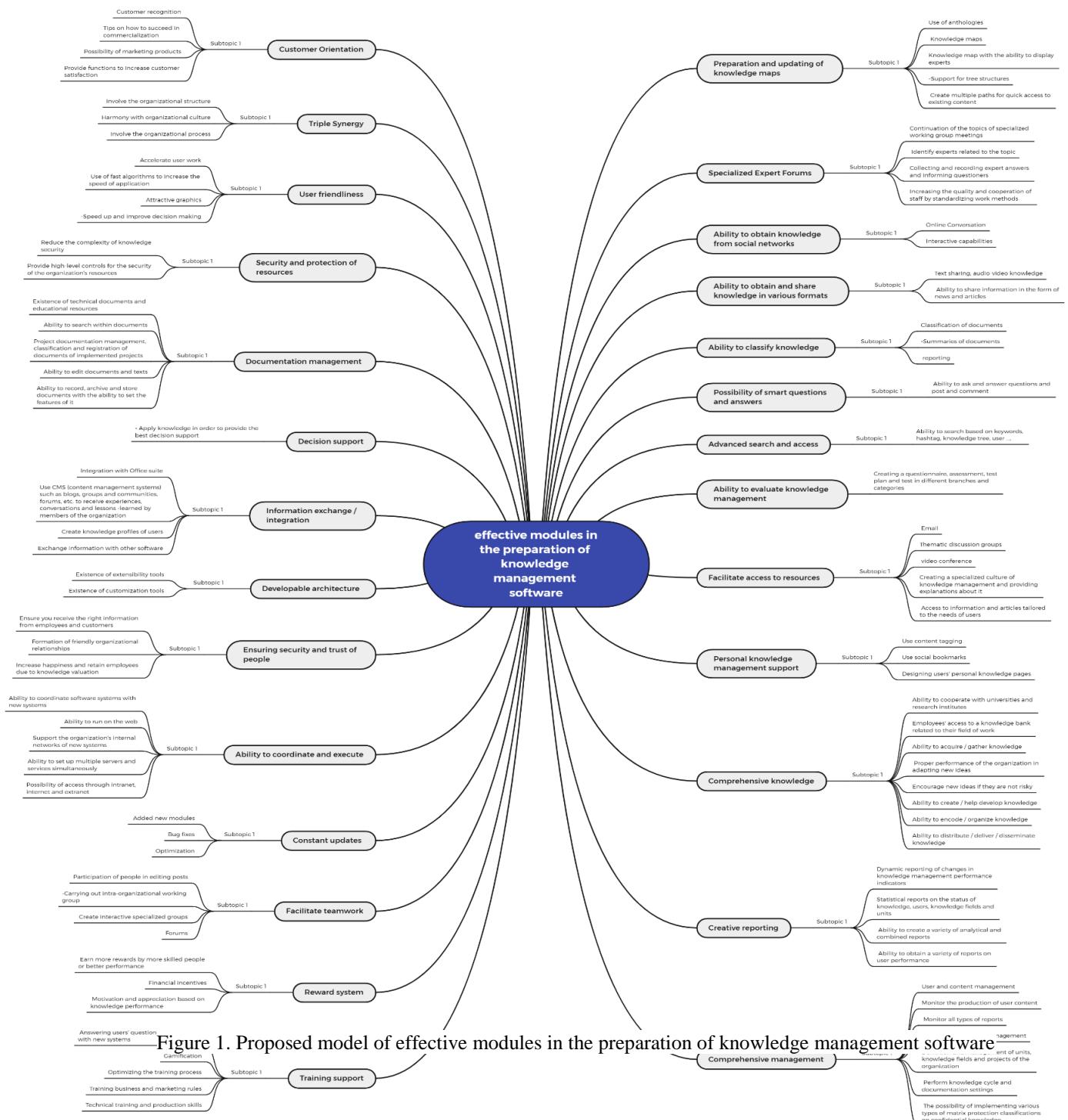
Findings indicate that knowledge management software should, first of all, facilitate matters related to the maintenance and application of knowledge. This is supported by Santoro (2020) that maintenance and application of knowledge are important for examining the current state of application of knowledge management software. Modules should be included in the software to create an organizational knowledge bank and effectively monitor key knowledge areas. In addition to creating a knowledge bank, knowledge validation tools should be included in the software. Due to the high importance of anthologies, it is better to be able to use anthologies in the software. Supporting tree structures, creating multiple paths for quick access to existing content, and creating knowledge maps with the ability to display experts, and in a word, the ability to create and update knowledge maps can double the value of knowledge management software. Another important issue is the creation and management of specialized expert associations. Since manpower and individuals are among the most important components of knowledge management and considering the double importance of expert associations, considering such a possibility and capability improves the process of implementing knowledge management. The ability to identify relevant experts, as well as collect and record expert responses and inform informers, is part of the process of facilitating and improving knowledge management, which should be represented in the software. The other part is about the possibility of creating and continuing specialized working group discussions and the possibility of talking to prominent experts through the forum. The forum is one of the basic issues that should be considered in the formation of the expert association.

Given that the impact of social networks on human societies is undeniable, it is necessary to provide interactive capabilities such as likes, hashtags, and comments on each user's profile, as well as online chat. Knowledge management software should enable the acquisition of knowledge from social networks. Knowledge



presentation should not be limited to a specific format; In other words, the software must support multiple texts, audio, video, and video formats. Acquiring and sharing knowledge in different formats is one of the basic points that can be seen in most software. Since news and articles are suitable and reliable channels for acquiring and sharing knowledge, providing relevant facilities in this field can be useful. The importance of knowledge classification should not be overlooked;

Attention to the capabilities of document classification, summarizing, and reporting are among the things that should be considered. It is better to have questions, answers, and comments in the knowledge management software. The intelligence of the question-and-answer system can distinguish knowledge management software from other software. In addition to the intelligence of the question-and-answer system, special attention should be paid to the intelligence of the search





system. It is better to have diversified and up-to-date search facilities. For this purpose, features such as keyword search, hashtag, knowledge tree, and search based on knowledge and user needs should be considered. Knowledge management evaluation is one of the important issues in the process of knowledge management implementation. Accordingly, facilities such as creating questionnaires, evaluations, and tests in different branches and categories should be available to managers. The knowledge manager and knowledge staff should have easy access to resources. Interactive features such as e-mail, thematic discussion groups, and video conferencing are among the components that can facilitate and accelerate the process of knowledge sharing in particular and the process of knowledge management in general. It is better to create a specialized vocabulary for knowledge management and to include this possibility in the software. In addition, access to information and articles tailored to users' needs should be facilitated. Individual knowledge is one of the most important topics in knowledge management; Accordingly, support for personal knowledge management is a concept that should be considered as a plug-in. Personal knowledge management support is not possible except by focusing on content tagging, using social bookmarks, and designing users' knowledge pages.

The approach of knowledge management software designers should be such that a comprehensive knowledge orientation can be seen throughout the software. It is better to provide facilities for acquiring, collecting, developing, organizing, and disseminating knowledge in the software. If employees have access to a knowledge bank related to their field of work, the process of collecting and acquiring knowledge will be facilitated. The ability to create and assist in the development of knowledge, coding and organizing knowledge, distribution, delivery, and dissemination of knowledge should also be considered in the initial and final design of the software. Given that universities and research institutes and knowledge-based, are inextricably linked with knowledge and knowledge management, it is better to be able to communicate and cooperate with social institutions. Of course, it should be noted that the whole story of knowledge

management does not go back to software and software design; Part of the work goes to the organization and part to the employees. Individuals or employees must adopt new ideas from the body of knowledge of the organization; The organization should support and encourage new ideas if they are not risky, and the facilities that facilitate this, ie the adoption of new ideas by employees and the encouragement of new ideas by the organization should be implemented in the software. The creative reporting capability is another component that should not be overlooked. The possibility of dynamic reporting of changes in knowledge management performance indicators, various statistical reports of knowledge status, user performance, fields, and knowledge units, and the possibility of creating a variety of analytical and combined reports can make creative and attractive reporting. Management is a key concept in knowledge management; Therefore, plugins and fields should be considered in knowledge management software to enable comprehensive management. Comprehensive management that includes user and content management, monitoring the production of user content and monitoring the types of reporting, as well as managing the expert community, defining and managing knowledge units and fields and projects of the organization, setting knowledge cycle and documentation settings, and cover the possibility of implementing a variety of matrix protection categories on confidential knowledge. It makes sense if knowledge management software supports training.

It should be possible to educate and respond to users interacting with new systems. Knowledge management software should include training in business rules and marketing, technical training and production skills, as well as issues related to game design and gamification.

It is useful to implement an accurate and attractive reward system in knowledge management software. People should be praised for their skill and quality of performance. The same system of rewards and financial incentives can change the quality of knowledge management. If the facilities that facilitate teamwork such as the possibility of people participating in editing posts, group work within the organization, creating interactive specialized groups, and creating forums



in knowledge management software are provided, the culture of knowledge dissemination and mutual trust in the organization will be easier. Therefore, considering the possibility of teamwork can be useful. Constant software updates should not be forgotten. It is better to add new modules and features in new versions, in addition to bug fixes and optimizations. In addition, the software must be able to coordinate and run. The software will be effective if it can coordinate with new systems and the ability to run on the web and be available to everyone through the intranet, Internet, and extranet. In addition, it is better than the organization's internal networks to support new systems and allow multiple servers to be set up and serviced simultaneously. The software will be more acceptable if it ensures the security and trust of people so that in the structure of the organization, friendly organizational relationships and a happy and lively work environment are formed and there is an assurance of receiving correct information from employees and customers. Scalable architecture is another component of knowledge management software. In other words, the presence of extensibility tools as well as the presence of customization tools in the software can be helpful.

Integration and information exchange are among the other things that seem necessary. If knowledge management software is not integrated with Office suite and other software, it will have problems in terms of quality, efficiency, and popularity. In addition, the ability to create knowledge profiles of users and the ability to use content management systems can improve the efficiency of knowledge management software. By providing tools and facilities that support and facilitate decision-making, the value and application of the software will be doubled. Since documentation is one of the key topics in the field of knowledge management, special attention should be paid to documentation management. If in the software, technical and educational documents are provided in a searchable manner, along with the possibility of managing project documents and the possibility of classifying and, of course, editing project documents and other documents, then the irregularity of documents can be reduced. The organization was hopeful. What should not be overlooked is the issue of security and protection of

organizational resources. The level of complexity in providing knowledge security be reduced as much as possible and high-level controls should be provided to ensure the security of the organization's resources. Usually, in most software, the discussion of user-friendliness is very much considered; Knowledge management software is no exception to this rule. Components such as speeding up users, speeding up and improving decisions, and attractive graphics should be included in the final structure of the software.

There is often a triple synergy between organizational structure, organizational culture, and organizational process. Knowledge management software should support this triple synergy. The software should include the organizational structure, accelerate the organizational process and be in harmony with the culture of the organization. In other words, it is better that the software supports the culture of the organization and facilitates matters related to the culture of the organization. The customer and paying attention to the needs and wants of the customer can be considered the final station of the software. If tools are provided to identify as well as identify and interact with the customer, along with facilities to increase customer satisfaction, then the acceptance of the software will probably increase. It should be possible to monitor the market with the help of software and receive feedback from the market.

The ability to market products and guide how to succeed in commercialization is part of the customer-centric process that must be implemented in the software.

5. Conclusion

Knowledge management is the application of management and grounding to transform knowledge (hidden to explicit and vice versa) within an organization through the collection, sharing, and use of knowledge as an organizational asset to achieve the goals of the organization (Hassanzadeh, 2008). Based on the definitions of knowledge management, it can be concluded that knowledgeable organizations do not consider knowledge management as a goal, but as a tool for acquiring and applying knowledge within the organization. Therefore, why and how to use



knowledge management software has always been a concern of organizations. Accordingly, if knowledge management is considered in the true sense of the word in an organization and its processes are well implemented in the organization, the appropriate software solution will be one of its essential components without which all knowledge management efforts will be fruitless. Knowledge management software is a good platform to increase organizational interactions and support the knowledge management process. In this study, we tried to provide a suitable model for effective modules in the preparation of knowledge management software for Iranian companies and organizations by examining the modules of common knowledge management software in Iran, as well as according to the research literature. It was established in the study that 27 modules of 12 common software in Iran. Each module has a category. Also, the model has about 93 options in these categories. Finally, we presented a suitable model for producing knowledge management software for Iranian companies and organizations.

References

- Davenport, T. H. (1994). Managing in the new world of process. *Public Productivity & Management Review*, 133-147.
- Drucker, P. F. (1994). Title:" The Age of Social Transformation. *Atlantic Monthly*, 274(5).
- Farahani, H. (2009). Knowledge management and its functions in organizations. *Knowledge*, No. 137.
- Hashem, P., Mohammadi Moghaddam, Y., and Mohammadi Moghaddam, A (2011). Knowledge management, requirements and challenges. *Development of Fashion and Human Resources and Support*. Access Link: <https://www.sid.ir/fa/journal/ViewPaper.aspx?id=139069>
- Gao, T., Chai, Y., & Liu, Y. (2018). A review of knowledge management about theoretical conception and designing approaches. *International Journal of Crowd Science*.
- Mohammadzadeh, A., Durrani, Z., and Sabbagh Gol, H. (2015). Comparison of knowledge management software by performance, *8th National Conference and 2nd International Conference on Knowledge Management, Tehran*.
- Ong, R. J., Raof, R. A. A., Sudin, S., & Choong, K. Y. (2021, February). A Review of Chatbot development for Dynamic Web-based Knowledge Management System (KMS) in Small Scale Agriculture. In *Journal of Physics: Conference Series* (Vol. 1755, No. 1, p. 012051). IOP Publishing.
- Panahi, N., Nezafiti, N., Siadat, H. (2015). Evaluation of knowledge management system modules to implement knowledge management 2.0 in the organization. *Public Management Perspective*, No. 23.
- Santoro, G., Vrontis, D., Thrassou, A. & Dezi, L. (2020). Comparative analysis of knowledge management software applications at E&Y and Unilever Vietnam. *Technological Forecasting and Social Change*, Elsevier, vol. 136(C).
- Sharif, A., Hosseinghlizadeh, R. (2016). Identify and cluster personal knowledge management systems and tools. *Journal of Information Processing and Management*, Volume 31, No. 4.
- Strauss, A., Corbin, J. (2014). *Principles of Qualitative Research Methodology Basic Theory: Procedures and Methods*. Translation: Buick Mohammadi, Tehran: Institute of Humanities and Cultural Studies.