

# Developing and Validating the Excellence Model for the Strategic Knowledge Management Case Study: Mobarakeh Steel Company

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## Abstract

The aim of this study is to design the excellence in Mobarakeh Steel Company's strategic knowledge management. To achieve this goal, the researcher has used qualitative and quantitative methods. Therefore, the research method is the mixed one. This study, based on the nature of the data and data collection procedure, is a descriptive, exploratory research. It follows and applies development objective. Strategic Knowledge Management Excellence Model (SKMEM) is presented in three components (strategy, process and results), 13 criteria and 80 sub-criteria and with a score of 6170 as a suggested model for the excellence in Mobarakeh Steel Company, in this way while the organization is analyzing the state of knowledge it can also improve its plans and actions and track the excellence. In addition the results of quantitative analysis showed that, Mobarakeh Steel Company has achieved 4478 points in the Strategic Knowledge Management Excellence Model.

*Keywords:* Strategic Knowledge Management; Excellence Models; Fuzzy Delphi Technique; Mobarakeh Steel Company.

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## 1. Introduction

Regarding the increasing importance of the knowledge management and strategic knowledge management in enterprises' achievements, this concept is increasingly used for leading organizations to create sustainable competitive advantage. Nevertheless, there is no holistic approach to determine the current status of organizations in the field of strategic knowledge management and therefore reaching the desired position. To address this gap, experts have proposed criteria of the strategic knowledge management excellence. These criteria, which are formed on the content of quality management concepts and process engineering, will help organizations control knowledge processes, assess the strategic knowledge management

structures and their improvement. Moreover, these criteria can be used to support the learning of the systematic knowledge on different subsets of programs and policies of each organization <sup>1)</sup>.

Knowledge management is an opportunity to increase the effectiveness of human resource management in the organization in which they are willing to meet and facilitate the needs of the staff and talents. It means that more employees are motivated to work and therefore, the recruitment, selection, training and improving of the organizations staffs are carried out in a better way <sup>2)</sup>.

The knowledge management tends to organize the educational process, which construct an active character who is able to generate new knowledge continuously. An active character for the contemporary world and its plural form is a suitable norm and an appropriate model of development.

The purpose of knowledge management in education is the professional mobility training, the ability to see the world with a trend of unpredictable changes and steady progress <sup>3)</sup>.

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Xin Jin and his colleagues <sup>4)</sup> studied the exploits of the rules of multi-dimensional, phased and non-linear dynamic evolution between the breadth and depth of the knowledge sources and the innovation performance. The following conclusions were obtained. First, regarding the explorative innovation, when both the breadth and depth of the knowledge source are at a low level, the enhancement of the breadth of the knowledge source may rapidly lift explorative innovation performance; when the knowledge source is at a high level, the theory of 'ambidexterity balance' is more applicable to find a balance between the breadth and the depth of the knowledge source for the enhancement of explorative innovation performance. Second, in terms of exploitative innovation, 'ambidexterity balance' theory can be applied at all levels. In other words, the balance of the breadth and the depth of the knowledge sources greatly enhance the exploitative innovation performance.

Lopesa and his colleagues <sup>5)</sup> declared that Organizational sustainability increasingly focuses on how to manage the new knowledge of ideas and practices. Open innovation plays a key role towards effective strategic sustainable management. Through open innovation, companies can leverage knowledge management to an asset that promotes sustainable innovations that influence back the organizational sustainability.

In regard to the strategic knowledge management, some researchers have raised comments: Strategic knowledge management is related to the processes and infrastructures which enables companies to acquire, create and share the knowledge and to define the strategy and make strategic decisions in this way <sup>6)</sup>.

The organizational knowledge strategy stipulates the overall process and shows the organization's desire to allocate its resources and knowledge capabilities to meet the requirements of the organization's strategy. As a result, the existing knowledge gap between what the organization knows and does not know about the way to perform its strategy would be reduced <sup>7)</sup>.

Mobarakeh Steel Company with strategic knowledge management practices has paid way for the possibility of innovation in its processes, activities and services, thereby improving its competitive position. Implementation of Strategic Knowledge Management Excellence Model could be more effective in the culture and the productivity of the entire organization and could create a complete organizational development. A variety of models of the excellence (organization, human resources, ethics, knowledge and education) have been used in Mobarakeh Steel Company and in spite of some deficiencies, there are strong points. To study these models and put together their strengths, there has been the potentiality to overcome the weaknesses of the individual models and could meet the

targets especially since these models have been designed considering the existing condition in Mobarakeh Steel Company. Consequently, Mobarakeh Steel Company faced issues that have been raised in the study by four questions: What is the Strategic Knowledge Management Excellence Model? Which of these models of the excellence have more applications in designing the Strategic Knowledge Management Excellence Model? What are the key components of Strategic Knowledge Management Excellence Model? What are the key components of Strategic Knowledge Management Excellence Model criteria? What are the measuring indexes of Strategic Knowledge Management Excellence Model key criteria?

## 2. Research Methodology

The present study aims to design the excellence in Mobarakeh Steel Company's strategic knowledge management. The research is a mixed one. This research, considering the nature and the way data gathering, is a descriptive exploratory study following and applying the development objectives. The development of a new conceptual model on issues related to strategic knowledge are considered and new factors affecting the strategic knowledge management presented to indigenize the criteria and sub-criteria.

## 3. Data Analysis

In the qualitative phase, the Delphi technique has been used in 10 rounds, the results of which are displayed in the following Tables:

1. To select the excellence models to develop the Strategic Knowledge Management Excellence Model: After two rounds using Fuzzy Delphi technique finally from the 12 Excellence Models, Models: MAKE (Most Admired Knowledge Enterprise) Global Award, Training and Development Excellence Model, Human Resources Excellence Model, Ethics Excellence Model and Shahab Model were selected as the final models for designing the excellence model of strategic knowledge management. It should be noted that the experts selected EFQM Model of the Excellence as the basis for other models and stated that the model could be the foundation for designing the Strategic Knowledge Management Excellence Model.
2. To select the appropriate criteria to develop the Strategic Knowledge Management Excellence Model: After surveying the industry and university experts', comments and using the four round Fuzzy Delphi technique, 13 criteria approved as shown in Fig. 1.
3. To select the appropriate sub-criteria to develop the Strategic Knowledge Management Excellence Model: After determining the excellence model criteria, sub-criteria of the Excellence Model were extracted in four rounds resulting in 80 sub-criteria.

Table 1. Summarizes the Fuzzy Delphi technique to choose models of excellence.

| Number of new models of open ended responses | Number of approve model | Number of forwarded Model | Number of received question | Number of forwarded question | Round number |
|----------------------------------------------|-------------------------|---------------------------|-----------------------------|------------------------------|--------------|
| -                                            | 5                       | 12                        | 30                          | 30                           | 1            |
| -                                            | 5                       | 12                        | 26                          | 30                           | 2            |

Table 2. The summary of the Fuzzy Delphi technique to choose the criteria of the excellence.

| Number of new criteria of open ended responses | Number of approved criteria | Number of forwarded criteria | Number of received question | Number of forwarded question | Round number |
|------------------------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|--------------|
| -                                              | 21                          | 47                           | 30                          | 30                           | 1            |
| 6                                              | 10                          | 27                           | 26                          | 30                           | 2            |
| 4                                              | 13                          | 14                           | 28                          | 30                           | 3            |
| -                                              | 13                          | 13                           | 28                          | 30                           | 4            |

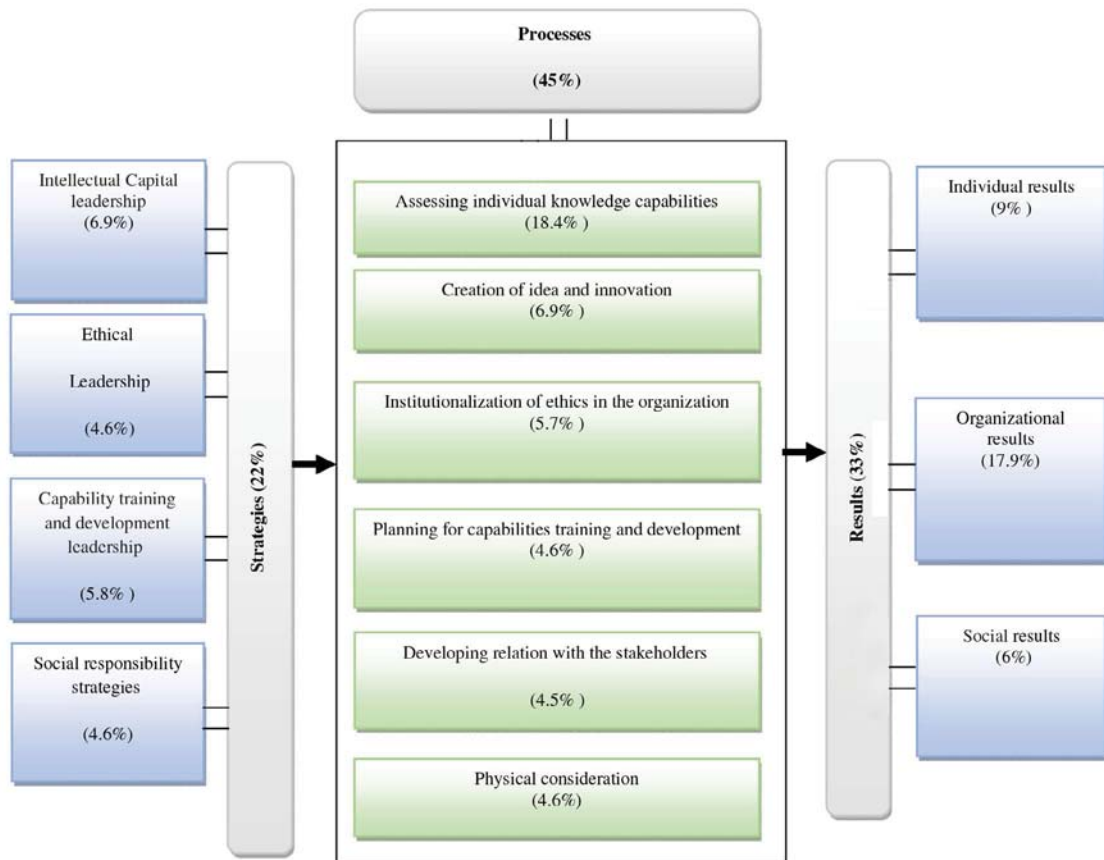


Fig. 1. Points of Strategic Knowledge Management Excellence Model.

**4. Model Scores**

Finally, the points of criteria and sub-criteria of Strategic Knowledge Management Excellence Model were calculated. Strategic Knowledge Management Excellence Model, enjoyed 6170 scores (points).

After designing the Strategic Knowledge Management Excellence Model and weighting each criterion, the researcher acted to distribute the questionnaire among the target population to measure the present state of Mobarakeh Steel Company and to compare the state of the population with the model extracted by the university and industry experts. After analyzing the collected data, Mobarakeh Steel Company obtained 4478 scores (points) in the Excellence Model.

**5. Path Analysis to Validate the Model**

The LISREL structural equation software has been used to examine in details.

Considering the influence coefficients greater than 0.3 and t ratio greater than 1.96 it can be concluded that the relationships within the model are approved. The model indexes of fit meet the acceptable range, indicating good fit of the model.

**6. Conclusion**

This study, using the subject matter literature review and the excellence patterns and Fuzzy Delphi technique, manage to develop Strategic Knowledge Management Excellence Model in Mobarakeh Steel

Company. The idea of this modeling occurred with an emphasis on strategic knowledge management and the excellence models. Today, focusing on the issues of Strategic Knowledge Management Excellence Model is essential because the knowledge has been recognized as an important source of competition and the excellence and as an essential element for sustainable development and in general as a decisive factor for companies with global aspirations. Towards the excellence, many other obstacles become apparent that shows the importance of self- assessment and the excellence models. AS the models of the excellence has been defined as the basic framework for assessing and improving organizations. Strategic Knowledge Management Excellence Model, using the national and international models of the excellence has been designed for implementation of the research. This model is a comprehensive framework based on a set of core and strategic values in intellectual property leadership, moral leadership, training leadership and capabilities development and social responsibility and excellence strategy that helps the managers to identify the strengths, weaknesses, threats and opportunities through continuous assessment of strategies, processes and the consequences of Strategic Knowledge Management Excellence Model , and to improve them in order to achieve excellent and developed organization using planning .

This model can lay the groundwork for the development of strategic knowledge management and excellence in Iranian organization and enables them to reach a comprehensive pathology, to do their plans and actions to evaluate their position in the excellence process.

Table 3. The summary of the Fuzzy Delphi technique to choose sub-criteria of excellence.

| Number of new sub-criteria of open ended responses | Number of approved sub-criteria | Number of forwarded sub-criteria | Number of received question | Number of forwarded question | Round number |
|----------------------------------------------------|---------------------------------|----------------------------------|-----------------------------|------------------------------|--------------|
| -                                                  | 13                              | 52                               | 30                          | 30                           | 1            |
| 41                                                 | 45                              | 54                               | 29                          | 30                           | 2            |
| 35                                                 | 80                              | 80                               | 28                          | 30                           | 3            |
| -                                                  | 80                              | 80                               | 28                          | 30                           | 4            |

Table 4. The result of the research model.

| Component                       | Influence Coefficients( $\beta$ ) | T-VALUE | Result   |
|---------------------------------|-----------------------------------|---------|----------|
| Strategy $\rightarrow$ Process  | .56                               | 4.34    | Accepted |
| Processes $\rightarrow$ Results | .45                               | 3.03    | Accepted |

The Excellence Model presented in this study, in addition to having a comprehensive system structure is a new orientation in the excellence models. Because it enjoys a strong theoretical foundation and has been refined by university and industry experts, this model includes sustainable advantage that very excellence organization needs to achieve. This model includes sustainable advantage that an organization needs to achieve the excellence. By conducting this research and applying the Strategic Knowledge Management Excellence Model, the organizations can improve and evaluate their success in implementing knowledge management excellence improving programs in different time intervals and by focusing on a comprehensive quality and the participation of all members of the organization and customer satisfaction and shareholder interests can be achieved. At the same time, individual and organizational learning can occur by encouraging and promoting creativity and innovation. Using the results of this study intended to identify the requirements for changing in moving towards the excellence in organizations. Mobarakeh Steel Company and generally any organization that has thought of realization of the excellence processes can provide the basis for establishing the processes of the excellence. According to the results of this research some plans can be also prepared to improve the situation by defining appropriate improvement projects, identifying strengths and weaknesses and priorities and moving towards the excellence through effective management implementation of strategies and processes to facilitate the excellence in the organizations. Strategic Knowledge Management Excellence Model provides solutions in this field. In a part of current study, the researcher has examined the present situation and the desirable situation in Mobarakeh Steel Company and identified the gaps between these two points. The gap analysis is carried out and Mobarakeh Steel Company's strengths and weaknesses in excellence model criteria and sub-criteria of the strategic knowledge management have been identified. Based on the results, strategies showed a gap of 6.4 percent, processes a gap of 11.4 percent and the results a gap of 11.4 percent. Due to the gaps in the path of the excellence of Mobarakeh Steel Company, the managers and officials should first plan to eliminate or reduce these gaps.

The systematic collection and exploitation of data and strategic knowledge is only possible if the organization meets a suitable environment to stimulate and motivate people to transfer their knowledge to be shared. In other words, synergies between IT capabilities, the power, innovation and creativity of the employees of each unit and all employees who work in the organizational value chain, are the most important solutions facing today's organizations.

Thus, the model presented in this study can be used to evaluate the performance of the organization in the field of strategic knowledge and considered as National Award Excellence for Iranian organizations. Measurable indexes and different models enable the organizations to design dashboards for underlying processes and design decision making support systems for the managers and experts. Furthermore, it can be stated that the organizations are able to implement all the criteria of Strategic Knowledge Management Excellence Model effectively. These organizations can reduce or eliminate their gaps in knowledge management excellence model in their strategic planning. The model presented in this study, in addition to comprehensive pathology of strategic knowledge management system is able to design improvement projects and actions and assess its position in the maturity of strategic knowledge management. In addition to strong theoretical basis, this model has been refined by the experts, comment and using 10- round Fuzzy Delphi technique. The final version was approved with 13 criteria and 80 sub- criteria.

## 7. Suggestions Based on the Results and Findings

According to the results it is suggested that Mobarakeh Steel Company institutionalized the processes of Excellence which includes: assessing Strategic Knowledge Management current situation; identifying the cases needing to improve; identifying how to improve the cases; prioritizing the cases needing to improve; the inclusion of improvements in the work plan, implementing improvements and Survey of the results in the organization. In this regard, managers must try to achieve excellence in the organization by providing the stage for continuing implementation of strategic knowledge management excellence strategies and processes, and going true the ups and downs with success. The results of this study help Mobarakeh Steel Company and other similar organizations to take a Knowledge Management Excellence Model for assessing and developing the individual, organizational and social situation. The researcher during the study has identified the main processes of Mobarakeh Steel Company's 19 committees as strategic sectors of Mobarakeh Steel Company. In fact, the core and the most important processes are centered in these sectors. It is therefore essential that the results of Strategic Knowledge Management Excellence Model to be re-evaluated periodically and compare the present situation with the previous period.

- In general, considering the discussions and analyses made so far the following suggestions worth mentioning:

The organization managers support the excellence processes in the organization lays and appropriate

ground for regular implementation of the Strategic Knowledge Management Excellence processes and strategies.

- Strengthening the organizational culture for the statute establishment of strategic knowledge management and assigning the individual commitment to it and making them aware of the benefits of its realization in the organization (focusing on the staff key knowledge in the management performance and promotion systems and the rewards).
- Planning and taking executive actions to strengthen and raise the points of each Strategic Knowledge Management Excellence Model criteria according to the organization's mission and vision.
- Identifying and classifying sources of generating strategic knowledge in the organization and establishing information technology to strengthen and save it.
- Holding training theoretical and applicable courses for strategic knowledge management processes based on accessing to the products and services of the organization and briefing the individual. Studying the gaps between Strategic Knowledge Management Excellence Model and the current state of Mobarakeh Steel Company and planning to eliminate or reduce the gaps.

- Comparing key components of MAKE model to the Strategic Knowledge Management Excellence Model and finding areas of differences and similarities. Using criteria such as: training leadership, development of the capabilities, physical considerations, social responsibility strategies and developing relationships with stakeholders as the strengths of the organization and planning to remove poor standards in the organization.

## References

- [1] M. R. Hamidizadeh, M. E. Fadaeinejad: *IJMIS.*, 14(2010), 69.
- [2] J. P. Lenzion: *Procedia Manufacturing.*, 3(2015), 674.
- [3] G. I. Petrova, V. M. Smokotin, A. A. Kornienko, I. A. Ershova, & N. A. Kachalov: *Procedia-Social and Behavioral Sciences.*, 166(2015), 451.
- [4] X. Jin, J. Wang, T. Chu & J. Xia: *Technology Analysis & Strategic Management.*, 0(2017), 1.
- [5] C. M. Lopesa, A. Scavardab, L.F. Hofmeisterc, A. M. T. Thoméd, G. L. R. Vaccaro: *Journal of Cleaner Production.*, 142(2017), 476.
- [6] M. H. Zack: *the strategic management of intellectual capital and organizational knowledge: A collection of readings.*, (2002), 127.
- [7] Nicolescu, Ovidiu: *Academy of Economic Studies Buncharest.*, (2007), 45.