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**(Research Paper)**

## **Studying the effect of strategic thinking dimensions on the implementation of the EFQM excellence model**

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### **Abstract**

**Purpose:** Organizational excellence models are used as proper instruments for measuring the deployment success of systems in different organizations. The present study attempted to investigate the effect of market orientation besides strategic thinking dimensions on the EFQM model of excellence. In the proposed model, the effect of strategic thinking dimensions including systems thinking, organizational vision, and creativity on the enablers and the results of the EFQM model were investigated. Considerably, market orientation was proposed as a strategic thinking dimension and its effects on enablers and results of the EFQM model were examined.

**Design/methodology/approach:** This study was conducted in a steel company where the EFQM excellence model has been implemented. For investigating the effects of strategic thinking dimensions on the EFQM model, eight hypotheses were designed. These hypotheses were tested based on 189 questionnaires and the concepts of the subject were determined. Structural Equations Modelling (SEM) and Smart PLS 3 software used for data analysis.

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**Findings:** The results indicated that the two variables of organizational vision and market orientation had a great effect on the implementation of the EFQM excellence model in the company. Respectively, by strengthening these two issues through training and practical plans, the implementation of the EFQM excellence model can be strengthened.

**Practical implications:** The results of this research can help managers in designing and planning practical measures to successfully implement the EFQM model of excellence. By considering and empowering the organizational vision and market orientations, managers achieve better implementation of the excellence model in the organization.

**Originality/value:** The market orientation is a dimension of strategic thinking which seems to be neglected by previous studies. In this study, the effects of market orientation along with the other dimensions of strategic thinking were investigated on the enablers and results of the excellence model.

**Keywords:** Strategic thinking, EFQM excellence model, Organizational vision, Creativity, Systems thinking, Market orientation

## 1. Introduction

As one of the logical, important, and inevitable necessities and requirements for any organization, to move on the path of progress and achieve excellence is a strategy for dynamic presence in the competitive market. Quality management is a strategy that can improve learning and increase the competitive advantage of organizations. The organizational excellence model is a powerful operational tool used by organizations for various purposes. Organizational excellence is not a theoretical concept, but an evidence-based, sustainable, and sustainable achievement and presentation of tangible and observable results ([Forouzan, Attafar & Shahin, 2014](#); [Yousaf, 2021](#)).

The EFQM Excellence Model was developed as one of the most common tools for performance appraisal and improvement by the European Quality Foundation in 1991 to disseminate total quality management. As research shows, it is an appropriate framework for total quality management. The EFQM organizational excellence model is a non-prescriptive model consisting of nine criteria as the core of this model and the basis of organizational assessment. The EFQM excellence model criteria are grouped under five "enablers" criteria including leadership, policy, strategy, people, partnerships, resources, and process, and four "results" criteria including customer results, people results, society results, and key performance results ([Dubey & Lakhanpal, 2019](#); [Para-González, 2021](#)).

Strategic thinking has been highly appraised in the field of strategic management for more than a decade. A lot of studies have pointed out the significance of strategic thinking enablers for managers. Introducing strategic thinking by defining it is ineffective because of its conceptual complexity ([Dixit, et al, 2021](#)). Some definitions of strategic thinking have each addressed aspects of this approach; however, none of them have all the dimensions. In such a situation, it is better to introduce the nature and features of strategic thinking instead of

defining it, and trying to get a present the true profile of this approach. The studies conducted on strategic thinking further studied organizational activities to expand it in organizations ([Goldman, Scott & Follman, 2015](#); [Stan, 2006](#); [Oschman, 2017](#)).

Ershadi & Eskandari Dehdazzi ([2019](#)) considered the role of strategic thinking in creating a model of organizational excellence by considering the mediating role of organizational forgetting. The ideas of Liedtka ([1998](#)) and Mintzberg ([1994](#)) regarding strategic thinking show that it is composed of various components such as systems thinking, creativity, and organizational vision. Stan ([2006](#)) introduced attention to customer and market in the dimensions of strategic thinking under the title of cooperation with customers. Lee et al. ([2015](#)) defined market orientation as a concept in the discussion of market management that empowers an organization to deliver a superior product or service to domestic and foreign customers. They also found that paying attention to market orientation increases the financial and non-financial performance of the organization. It seems previous researchers have not studied the role of market orientation on the EFQM excellence model yet.

The present study aims to examine the effect of the dimensions of strategic thinking on the EFQM excellence model. In the proposed model, the effect of strategic thinking elements including systems thinking, vision, and creativity on the enablers and the results of the EFQM model are investigated. Also, market orientation is proposed as a dimension of strategic thinking and its effects on the enablers and EFQM model results are studied. Strategic thinking and its dimensions achieve the organizational goals, thus improving its performance by integrating it into organizational activities.

The proposed model was validated in a steel company where the EFQM model was implemented. This company has always been a top enterprise in assessing the EFQM excellence model in Iran, winning the highest level of award, i.e., the golden prize of organizational excellence, during different years by growing its level of excellence. In this research, the company has been selected as the leading national company to investigate the role of strategic thinking in the implementation of the EFQM model, so that this research can help to apply the strategic thinking approach in the implementation of the EFQM model.

In the following sections, the literature is reviewed in the two axes of the EFQM excellence model and strategic thinking. In the methodology section, the proposed model is introduced and the hypotheses are tested in the Steel Company. The research results are included in the final section with suggestions for future research.

### 3. The EFQM excellence model

Organizational excellence means an organizational commitment to sustainable growth and development of the company to gain customer satisfaction and continuously increase the company's profitability in an inclusive and supportive national environment. Organizational excellence depends on the specific circumstances, culture, internal and external environment, and business, the characteristics of human resources, strengths, and weaknesses, and the opportunities and threats surrounding an organization ([Ershadi & Eskandari Dehdazzi, 2019](#)). Organizational excellence model in the form of assessment models, if used properly, is an effective tool that can organize organizational concepts and values, formulate and implements strategic plans, applies self-assessment methods, guides organizational learning and continuous improvement in institutions, and enables the identification of the best processes ([Escrig-Tena, et al, 2019](#)). The organizational excellence model helps organizations to identify differences by comparing their current and desired situations, and then determine and implement the optimization solutions of the status quo by identifying complications and examining their causes ([Periañez-Cristobal et al., 2020](#)).

The EFQM model was developed in 1991 as a business excellence model that provided a framework for organizational judgment, self-assessment, and European quality rewards. It was implemented in 1992. This model demonstrates the sustainable benefits that a superior organization must achieve ([Allur, 2010](#)).

The EFQM Excellence Model has nine criteria which are grouped under five “enablers” criteria including leadership, policy, strategy, people, partnerships, and resources and process; and four “results” criteria including customer results, people results, society results, and key performance results which form the results of the organization's performance and introduce the desired results of the implementation of enablers. These nine criteria are calculated using two approaches of perceptual indicators (views and opinions of employees and managers) and performance indicators which are shown in Figure 1 ([Dubey & Lakhanpal, 2019](#)).

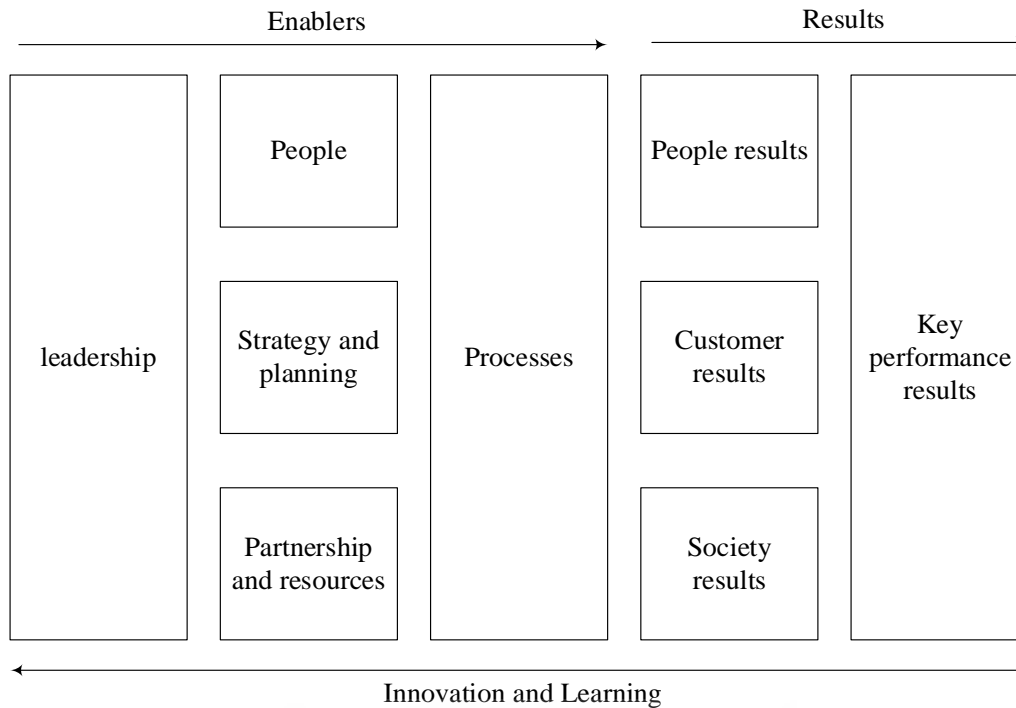


Fig. 1. EFQM Excellence Model (Dubey & Lakhanpal, 2019)

Rodriguez-Gonzalez et al. (2019) examined the effect of using the EFQM Excellence Model to improve hospital pharmacy performance. The results showed that EFQM is a valuable framework for periodic evaluation. In the study titled “the application of the EFQM excellence model by the evaluation of corporate social responsibility activities of companies”, Jankal & Jankalova (2016) discussed the possibility of using the EFQM Excellence Model in assessing CRP level. This research indicated that the EFQM Excellence Model is used as an approach to assessing the excellence of individuals and is constantly changing.

#### 4. Strategic thinking

The term strategic thinking has been used in many cases to refer to concepts such as strategic planning and strategic management (Liedtka, 1998). Therefore, it is necessary to examine these cases separately and consider their differences. This requires managers to escape the day-to-day operations of focusing on the long-term strategic goals of the business. Greatz (2002) considered the role of strategic thinking as an attempt to innovate and visualize a new and very different future for the organization. It may lead to a redefinition of the core strategies or even the industry in which a company operates.

Strategic thinking is an ongoing process aiming to remove ambiguity and give meaning to a complex environment (Bonn, 2005). This process involves analyzing the situation as well

as creatively combining the results of the analysis into a successful strategic plan. Unlike strategic planning, it is often used to refer to an analytical and planned process ([Ershadi & Eskandari Dehdazzi, 2019](#)). In 1998, Liedtka developed Mintzberg's theories of strategic thinking into a conceptual paradigm in which the basic elements of strategic thinking are systems thinking, creativity, and organizational vision.

Systems thinking refers to a change in the angle we see an organization. This change in perceiving an organization is a combination of separate and irrelevant components competing for resources to be able to see an organization as a whole system. The dominant view in this regard is a transboundary and forward-looking view that, instead of focusing on a particular action or reaction by individuals, emphasizes the structures shaping individual behaviors and the circumstances constituting the events in question. It requires a full understanding of the implicit internal and external dynamics of an organization ([Oschman, 2017](#)).

Strategic thinkers need to look for new approaches as well as the best ways to get things done. In other words, they should have a creative mind. Strategists also should enjoy unconventional thinking, imagination, and creativity to discover alternative ways of doing things ([Oschman, 2017](#)). Senior management needs to provide the resources required for implementing an idea. The decision to allocate money and time to a team or project is a complex judgment that can support or destroy creativity ([Harris & Sherblom, 2018](#)).

Another key element of strategic thinking is having a vision. Visions are attitudes or perceptions that people have in their hearts and minds. A vision in an organization guides activities and tasks and prevents unnecessary activities from diverting people from the goals of the organization ([Oschman, 2017](#)). A vision can be defined as the goal imagination, the desired organizational future, and its discovery. However, new competitive domains increase the vision in an organization and create a general perception that spreads throughout the organization and motivates people to use their experience and talent in an organization ([Harris & Sherblom, 2018](#)).

Ershadi & Eskandari Dehdazzi ([2019](#)) investigated the factor of organizational forgetting in strategic thinking to implement the model of organizational excellence. Their results indicated that organizational forgetting in strategic thinking has a positive and significant effect on the implementation and success of the organizational excellence model.

Besides, the elements of strategic thinking were introduced as systems thinking, creativity, and vision based on Theodosiou et al. ([2015](#)). Zenab Kazmi & Naarananoja ([2015](#)) attempted to provide a model that shows how to harness strategic thinking and examine the organizational culture and factors that support the learning process of strategic thinking. The results revealed that for empowering and implementing the process of developing strategic

thinking in work teams, leaders should create a framework consisting of all three aspects of this process, including leadership development, team development, and supportive work creation.

Bouhali et al. (2015) tried to present some of the roles of innovation leaders, focusing on important roles such as strategic planning and strategic thinking. Their results showed that leadership should be creative because a strategic thinker is not just a strategic planner, but plans change frequently contingent on internal and external conditions. Simuth (2015) investigated how to use e-learning tools to create and improve strategic thinking skills. The research showed that the development of entrepreneurship through e-learning tools to improve strategic thinking skills can be a way to deal with the recession.

Benito-Ostolaza & Sanchis-Llopis (2014) argued that one of the main tasks of companies is to design a good strategy that uses the two elements of strategic thinking and strategic planning. Shaker & Nambisan (2012) addressed the success factors in business ecosystems including entrepreneurship and strategic thinking. This research showed that business ecosystems create opportunities for collaboration and competition through fundamental innovation among their members, of which strategic thinking has a special status in this cycle.

Puspaningrum (2020) pointed out that market orientation plays a vital role in a company's performance because they believe that customers are valuable assets. Uncles (2000) states that market orientation is a process of company activities related to the creation of customer needs and satisfaction. According to Narver & Slater (1990), customer orientation, competitor orientation, and coordination between functions are elements of market orientation. Customer orientation and competitor orientation are activities that involve information about buyers and competitors in the target market and are disseminated through the business. Interface communication is the coordinated use of company resources in creating superior value for targeted customers. One of the measures used to assess the success of the company's strategy is marketing performance because every company has an interest in knowing the market achievement of the products being marketed. The success of marketing performance is determined by how effective the company is in creating a market orientation.

Stan (2006) introduced attention to customer and market in the dimensions of strategic thinking under the title of cooperation with customers. Market orientation is one of the elements of strategic thinking and examining its effects on the success of the excellence model because market orientation causes organizations to focus on gathering information about customer needs and using this information to create sustainable values for customers (Lee et al., 2015).

## 5. Research methodology

Systems thinking is a change in the perspective we view an organization. It is a change in the perception of the organization as a combination of separate and irrelevant components competing for resources for considering an organization as a whole system. Strategic thinkers need to look for new approaches as well as the best ways to get things done. In other words, they must have a creative mind. Another key element of strategic thinking is having vision and purpose. Visions are attitudes or perceptions that people have in their hearts and minds. Having a goal in an organization guides activities and tasks ([Shaik & Dhir, 2020](#)).

It seems that one of the gaps in previous studies such as Goldman, Scott & Follman ([2015](#)), Oshman (2017) Ershadi & Eskandari Dehdazzi ([2019](#)), and Dhir & Dhir ([2020](#)) is neglecting the market orientation as one of the elements of strategic thinking and examining its effects on the success of the excellence model because market orientation causes organizations to focus on gathering information about customer needs and using this information to create sustainable values for customers ([Lee et al., 2015](#)). In this study, market orientation is considered as one of the elements of strategic thinking along with vision, systems thinking, and creativity. Then, its effect on the two parts of enablers and the results of the organizational excellence model are investigated. Therefore, via eight research hypotheses, the effect of each of these elements on the model of excellence (results and enablers) is discussed. These hypotheses are as follows:

H1. Systems thinking has a positive and significant effect on the “enablers” of the organizational excellence model.

H2. Systems thinking has a positive and significant effect on the “results” of the organizational excellence model.

H3. Creativity has a positive and significant effect on the “enablers” of the organizational excellence model.

H4. Creativity has a positive and significant effect on the “results” of the organizational excellence model.

H5. Organizational vision has a positive and significant effect on the “enablers” of the organizational excellence model.

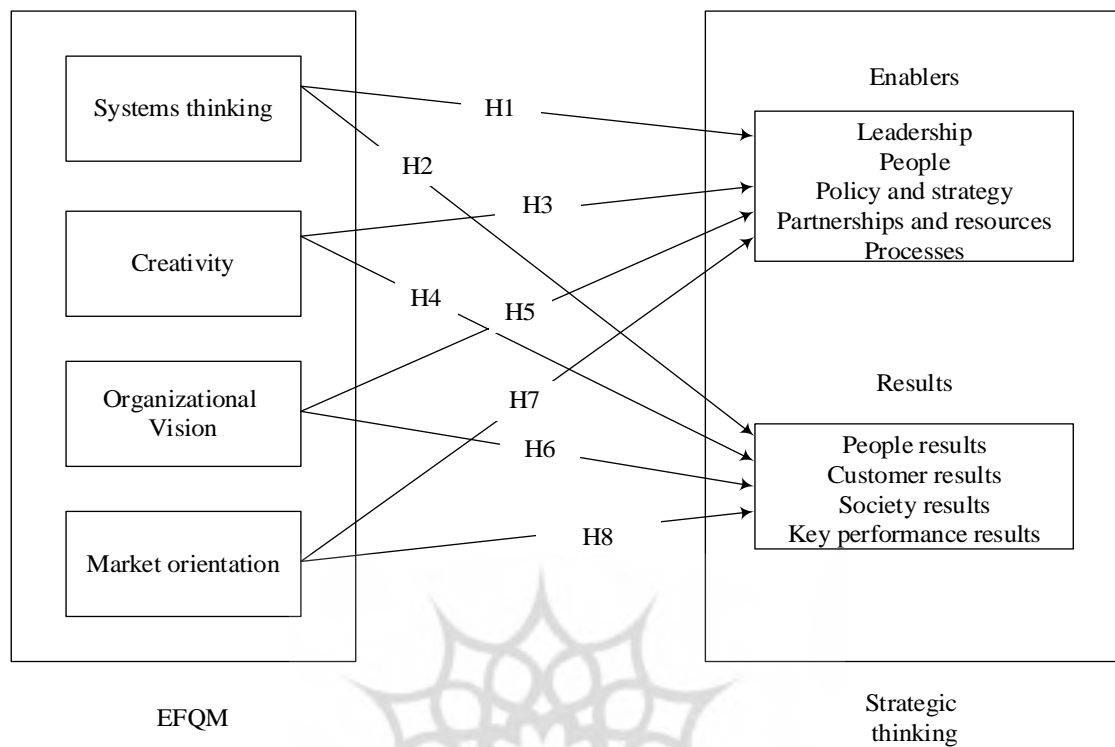
H6. Organizational vision has a positive and significant effect on the “results” of the organizational excellence model.

H7. Market orientation has a positive and significant effect on the “enablers” of the organizational excellence model.

H8. Market orientation has a positive and significant effect on the “results” of the organizational excellence model.



In this regard, the research conceptual model and related hypotheses are presented in Figure 2.



**Fig. 2. The proposed model of the relationship between the dimensions of strategic thinking and EFQM**

The present study aimed to investigate the relationship between the organizational excellence model and strategic thinking in an Iranian steel company. The population consisted of the managers and supervisors of this steel company. Due to the limited statistical population, Morgan's table and purposive non-random sampling method were employed. Table 1 identifies important indicators measuring the variables of creativity, systems thinking, vision, market orientation, EFQM excellence model enablers, and excellence model results. Different items were considered according to the nature of each variable and the questions were designed based on the items related to each variable listed in Table 1. To confirm the questionnaire construct and content validity, the opinions of academic experts in strategic management and organizational excellence model were surveyed.

**Table1. Items related to each questionnaire's variable**

Constructs	variables	Related references	Symbol
Systematic thinking	Uniformity and integrity in different parts of the organization	Stan (2006)	Q1
	Analyze the causes of the results		Q2
	Analyze the causes of the results Strategies and Policies	Ershadi & Eskandari Dehdazzi (2019)	Q3
	Cooperating in the organization		Q4
	Designing the processes	Dominique-Ferreira (2017)	Q5
Creativity	Strategic innovation	Ershadi & Eskandari Dehdazzi (2019)	Q6
	Teamwork and brainstorming meetings	Oschman (2017)	Q7
	Group decisions	Ershadi & Eskandari Dehdazzi (2019)	Q8
	Discover new opportunities	Stan (2006)	Q9
	Thinking of change	Ershadi & Eskandari Dehdazzi (2019)	Q10
Organization-al vision	Mission and goals		Q11
	Policies alliance with a vision	Bergeron et al. (2010)	Q12
	Staff knowledge and experiences		Q13
	New technologies	Ershadi & Eskandari Dehdazzi (2019)	Q14
	Organizational Foresighting	Stan (2006)	Q15
Market orientation	Market trends		Q16
	Costs of production		Q17
	Market research	Lee et al. (2015)	Q18
	Financial risk		Q19
	Market changes and competitors' movements		Q20
Enablers	Organizational changes		Q21
	Customers	Ershadi & Eskandari Dehdazzi (2019)	Q22
	Review of Objectives		Q23
	Strategies and policies		Q24
	Delegation of authority to employees		Q25
	Incentive system	Grant (2016)	Q26
	Staff satisfaction		Q27
	skills and knowledge of business partners		Q28
	Evaluation strategies	Theodosiou et al. (2015)	Q29
	Support and administrative activities		Q30
	Documenting activities	Harris & Sherblom (2018)	Q31

Constructs	variables	Related references	Symbol
Results	Customer results		Q32
	Organization outcome		Q33
	Employee perceptions of the organization		Q34
	Equal job opportunity		Q35
	Environmental Protection	Bergeron et al. (2010)	Q36
	Scientific context		Q37
	Society		Q38
	Information and knowledge		Q39
	Equipment and material	Harris & Sherblom (2018)	Q40

## 6. Discussion

The data collected from the steel company were analyzed by SPSS 20 and Smart PLS 3. The investigation of the conceptual model was done in three parts, i.e., the measurement model fit, structural model, and general model were performed. In the investigation of the measurement model, reliability and validity were reviewed. Three of Cronbach's alpha coefficients were used to determine the reliability of SEM. A Cronbach's alpha coefficient above 0.7 indicates acceptable reliability. Table 2 shows Cronbach's alpha coefficients and combined reliability for the research model variables. These coefficients are above 0.7, indicating that all variables have good reliability. The convergent validity index was used to determine research validity. AVE represents the average variance shared between each structure with its indices. AVE above 0.5 indicates acceptable convergent validity (Fornell & Larcker, 1981).

**Table2. The validity and reliability of constructs**

	Systematic thinking	EFQM model (Enablers)	Market orientation	Creativity	EFQM model (Results)	Organizational vision
Systematic thinking	0.806					
EFQM model (Enablers)	0.628	0.867				
Market orientation	0.594	0.827	0.792			
creativity	0.732	0.616	0.553	0.822		
EFQM model(Results)	0.601	0.851	0.705	0.564	0.784	
Organizational vision	0.666	0.841	0.732	0.755	0.713	0.792
Cronbach's alpha	0.865	0.934	0.842	0.877	0.934	0.849
Combined reliability	0.845	0.825	0.85	0.745	0.843	0.789
AVE	0.650	0.588	0.627	0.675	0.614	0.627

Table 2 shows that all dimensions have acceptable convergent validity. The factor loading is calculated by computing the correlation value of the indices with that structure. If this value is equal to or greater than the value of 0.4, it confirms that the variance between the structure and its indices is more than the variance of the calculated error of that structure. so, the validity of the structure is acceptable. In this model the loading factors of each structure are more than 0.4, thus the validities of structures are acceptable referring to Figure 3.

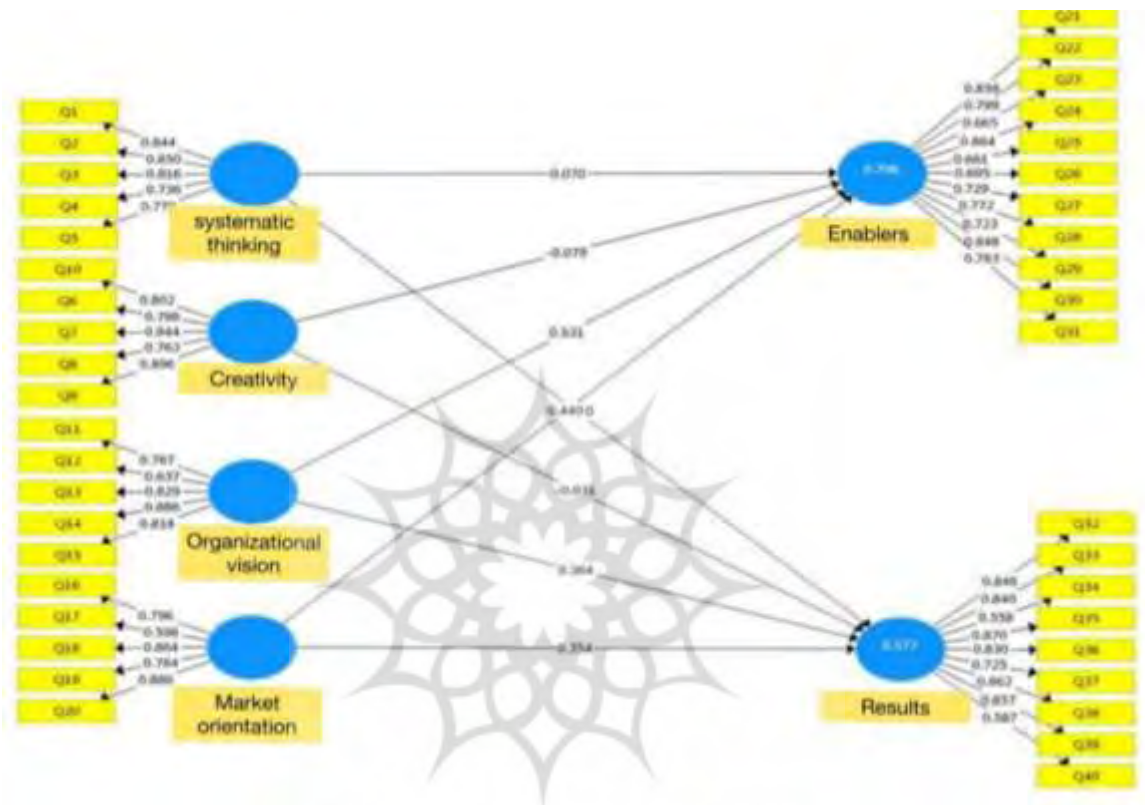


Fig. 3. Factor loading of the variables

For Least Squares Regression, usually analyzed via Smart PLS software, the Fornell & Larcker criterion (Fornell & Larcker, 1981) is used for diagnostic validity that indicates the existence of partial correlations between indices of one structure and those of other structures. This criterion refers to the fact that the square root of the variance values of each structure is bigger than the correlation values of that structure with other structures. That is, the values in the original diameter of the matrix must be bigger than all the values in the corresponding column. As observed, the values on the main diameter of the matrix are bigger than all the values in the corresponding column, indicating that the research model has good diagnostic validity.

$R^2$  is calculated only for endogenous (dependent) structures of the model. In the case of exogenous (independent) structures, the value of this criterion is zero. Chin (1998) introduced

three values of 0.19, 0.33, and 0.67 as the criterion values for weak, medium, and substantial  $R^2$  values. The more  $R^2$  related to the endogenous structures of a model, the better the model fit.  $R^2$  belongs to all the endogenous variables of the model (the enablers value of the organizational excellence model is 0.798, and the value of the results of the organizational excellence model is 0.577) are substantial. According to the index value, the Goodness of fit index (GFI) of SEM was confirmed.

The effect size uses the  $F^2$  index to analyze the relationship between variables. Values of 0.02, 0.15, and 0.35 indicate the small, medium, and large effect sizes of one structure on another, respectively. Table 3 shows the side effects of the model. As illustrated in Table 3, the effect size of systems thinking and creativity on the enablers and results of the organizational excellence model is small. Besides, the effect size of organizational vision and market orientation on the enablers of the excellence model is high, and moderate on its results.

**Table 3.  $F^2$  values**

Path	$F^2$	severity
Systematic thinking → Enablers	0.010	Low
Systematic thinking → Results	0.029	Low
organizational vision → Enablers	0.416	High
Organization vision → Results	0.093	Low
Creativity → Enablers	0.011	Low
Creativity → Results	0.001	Low
Market orientation → Enablers	0.437	High
Market orientation → Results	0.135	Medium

The  $Q^2$  index determines the predictive power of the model. Henseler et al. (2009) determined three values of 0.02, 0.15, and 0.35 regarding the model's predictive power for endogenous structures. As they showed, if the value of  $Q^2$  in the case of an endogenous structure is in the range close to 0.02, it indicates that the model has poor predictive power about the indices of that structure. The  $Q^2$  value for all endogenous variables is bigger than 0.35 which is shown in Table 4, indicating the strong predictive power of the model regarding these variables. It confirms the GFL of the research structural model.

**Table 4.  $Q^2$  values**

Construct	$Q^2$
Systematic thinking	0.469
Creativity	0.507
Organizational vision	0.451
Market orientation	0.442
EFQM model (Enablers)	0.494
EFQM model (Results)	0.509

The general model includes both measurement and structural parts. By confirming its GFI, the process of investigating a model fit is completed. Only one criterion, i.e., GFI is used to check the fit of a general model. This criterion is related to the general part of SEMs. That is by this index, the researcher can control the fit of the general part after examining the measurement part and the structural part of his general research model. According to the formula related to GFI, the index value of this research is 0.721, indicating a strong overall fit of the model.

The basic index for measuring the relationship between structures in the model (structural part in Figure 4) is t-statistic which can be seen on the model using the bootstrapping technique. If the t-value exceeds 1.96, it indicates the correctness of the relationship between the structures, thus confirming the research hypotheses at a 95% confidence level.

According to Table 5, the t-value for the hypotheses of the effect of systems thinking and creativity on the enablers and results of the organizational excellence model is lower than 1.96 and for the hypotheses of the effect of organizational vision and market orientation on the enablers and results of the excellence, model is higher than 1.96.

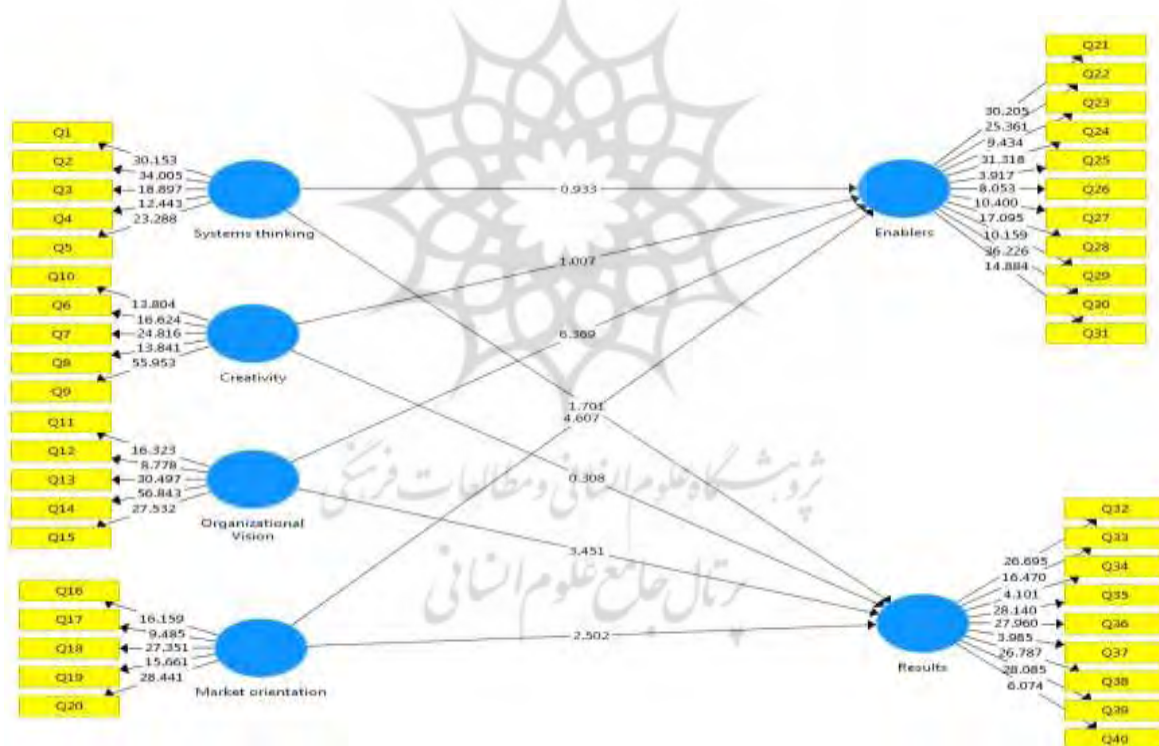


Fig. 4. Structural equation model

Table 5. Study of research hypotheses

Path	Z- value ( $1-\alpha=0.95$ )	Test result
Systematic thinking → Enablers	0.908	Not confirmed
Systematic thinking → Results	1.628	Not confirmed
Organizational vision → Enablers	5.650	Confirmed
Organization vision → Results	3.212	Confirmed
Creativity → Enablers	0.935	Not confirmed
Creativity → Results	0.294	Not confirmed
Market orientation → Enablers	4.314	Confirmed
Market orientation → Results	2.353	Confirmed

As Table 5 shows, four hypotheses of the effect of systems thinking and creativity on the enablers and results of the organizational excellence model were rejected, and four hypotheses of the effect of the organizational vision and market orientation on the enablers and results of the organizational excellence model were confirmed.

## **6.1 Theoretical implications**

### **6.1.1 The effect of systems thinking on organizational excellence model (hypotheses 1 and 2)**

Considering the z-value as 0.907 for the effect of systems thinking on the enablers of excellence model and 1.628 for its results, the first hypothesis, i.e., the effect of systems thinking on the organization excellence model, is rejected. The results show that the effect of systems thinking on the success of the organizational excellence model is rejected, while in Ershadi & Eskandari Dehdazzi (2019), the effect of systems thinking on the success of the model of excellence is confirmed with the mediating role of the organizational forgetting mediator variable. The ignorance of mediating variables in terms of organizational culture and organizational forgetting could be considered as the reasons for not confirming the first and second hypotheses in this study.

### **6.1.2 The effect of creativity on the organizational excellence model (hypotheses 3 and 4)**

Considering a z-value of 0.935 for the effect of creativity on the enablers of the excellence model, and 0.294 for the results of the excellence model, the second hypothesis, i.e., the effect of creativity on the implementation of the organizational excellence model, is rejected. It does not have a positive and significant effect. In Ershadi & Eskandari Dehdazzi (2019), Dominique-Ferreira (2017), and Grant (2016), the effect of creativity on the success of the excellence model was confirmed. These researchers focused primarily on the role of the focus group in the success of organizational strategic goals.

### **6.1.3 The effect of organizational vision on organizational excellence model (hypotheses 5 and 6)**

A z-value of 5.560 for the effect of organizational vision on the enablers of the excellence model and 3.212 for its results show that the fifth hypothesis, i.e., the effect of organizational vision on the organizational excellence model, is confirmed. It has a positive and significant effect on the organizational excellence model. In this study, the hypothesis of the effect of organizational vision on the implementation of the organizational excellence model was confirmed. The results of this section are consistent with Bergeron et al. (2010). Also, these results are consistent with those of Ershadi & Eskandari Dehdazzi (2019) and Tan (2017) that examined strategic thinking in the success of the excellence model with the mediating role of

organizational forgetting. For these two hypotheses, the ignorance of mediating variables in terms of organizational culture and organizational forgetting could be considered as the reasons for not confirming them in this study., lack of familiarity with the organizational vision by employees, and lack of commitment of senior managers to the vision could be other reasons for rejecting these hypotheses.

#### 6.1.4 The effect of market orientation on organizational excellence model (hypotheses 7 and 8)

A Z-value of 4.314 for the effect of market orientation on the enablers of the excellence model and 2.353 for its results confirms the fourth hypothesis, i.e., the effect of market orientation on the organization excellence model. It has a positive and significant effect on the organizational excellence model. The results of this section are consistent with Lee et al. (2015) which confirmed the effect of market orientation on organizational performance. Figure 5 presents the modified research model by removing the rejected hypotheses.

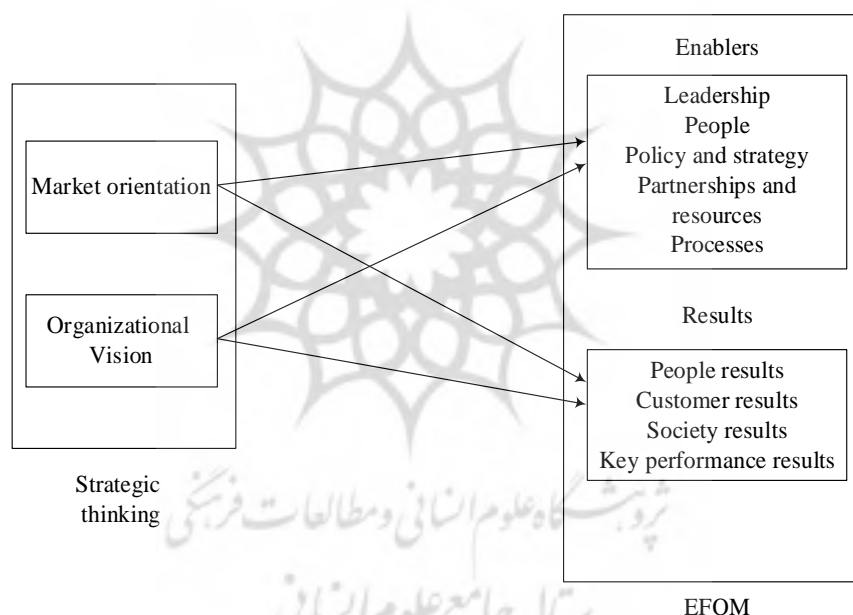


Fig. 5. Modified research model

## 6.2 Managerial implications

As the findings show, it is suggested that for developing strategic thinking in employees, the organization should be considered as a part of a system and common values and beliefs should play a pivotal role consistent with organizational values. One of the ways that leading employees to strategic thinking is to strengthen their spirit of success. When this trait is strengthened in employees, they think competitively to surpass others. To enhance strategic thinking, employees have a correct understanding of the internal and external environment of the organization. Managers should continuously seek to identify the problems of their



organization and focus on an organizational problem or problem. It is recommended that employees raise a sense of exploration and new solutions. It is also suggested that by holding meetings, managers attempt to instill in employees the feeling that they deserve a destiny beyond the set visions and goals.

By implementing programs for employment, training, and commitment in the change process and creating a two-way relationship based on trust between employees and managers, it is possible to optimize the implementation of excellent management processes. Establishing leading units (e.g. Rand D and system analysis) in the organization of creating strategic thinking and holding training courses to develop staff learning and related seminars for managers and employees to establish the EFQM system can be effective in creating and institutionalizing strategic thinking in the organization.

Also, senior managers should be creative and have a vision for the future of the organization. Creating structures, processes, and systems enhancing the ongoing discourse of strategic thinking among the senior management team can pave the path for the use of employees' advantage, genius, and creativity.

Also recommended is that an organizational vision is institutionalized in the thinking and mentality of senior managers and their management style, especially the transformational leadership style. The employees and managers should be informed of the significance of excellence in survival and profitability. Considering that the excellence of the organization is a new topic, it has not been given proper attention in Iranian organizations. So, providing conditions for employees and managers to get acquainted with the issue seems necessary. Developing regular programs or holding courses in this regard and following their growth can also be useful.

Managers should have market orientation insight in strategic planning for organizations especially in implementing the EFQM model inside the organization. It is suggested to define the courses of getting familiar with the market strategy of organization for staffs.

## **7. Conclusions**

In today's world, not only dramatic changes have occurred in various economic, social, and technological dimensions, but significant changes have also been made in new management methods and systems. Organizational excellence models are employed as powerful tools to measure the success of systems deployment in different organizations. Applying such models, the organization evaluates its success rate in implementing improvement programs at different times. This study investigated the effect of the dimensions

of strategic thinking on the implementation of the EFQM excellence model in an Iranian steel company.

Of the eight research hypotheses, the effect of two variables of market vision and market orientation on the implementation of the EFQM excellence model was confirmed, while the hypotheses related to the effect of systemic thinking and creativity on the implementation of the EFQM model of excellence were rejected. Comparing the findings of this study with previous studies, it can be seen that in the steel company, issues related to systems thinking and creativity are theoretically and practically insignificant. In this organization, these hypotheses can be tested again by holding training courses on systems thinking and creativity and implementing techniques related to each.

### 7.1 Research limitations and future study agenda

The variables affecting the relationship between the two categories of strategic thinking and the EFQM excellence model were not considered as a mediator. This issue is the limitation of this research. Further studies can examine the use of knowledge management methods such as project management and software development and their impact on creating an organizational excellence model. According to the research results, it is recommended to study and identify the intervening and mediating variables of the effect of strategic thinking on the model of organizational excellence. It is also recommended to investigate other managerial variables such as organizational entrepreneurship and knowledge management with strategic thinking on the organizational excellence model.

### References

- Allur, E. (2010). The dissemination of the EFQM self-evaluation model across Europe. *Revista de Management Comparat International*, 11(5), 971-979.
- Benito-Ostolaza, J. M. and Sanchis-Llopis, J. A. (2014). Training strategic thinking: Experimental evidence. *Journal of Business Research*, 67, 785-789. <https://doi.org/10.1016/j.jbusres.2013.11.045>.
- Bergeron, F., Raymond, L. and Rivard, S. (2010). Ideal patterns of strategic alignment and business performance. *Information & Management*, 41(8), 1003-1020. <https://doi.org/10.1016/j.im.2003.10.004>.
- Bonn, I. (2005). Improving strategic Thinking. A Multilevel Approach, *leadership & organization Development Journal*, 26(5). 336-354. <https://doi.org/10.1108/01437730510607844>.
- Bouhali, R., Mekdad, Y., Lebsir, H. and Ferkha, L. (2015). Leader Roles for Innovation: Strategic Thinking and Planning. *Procedia - Social and Behavioral Sciences*, 181, 72-78. <https://doi.org/10.1016/j.sbspro.2015.04.867>.
- Chin, Wynne W. (1998). Commentary: Issues and Opinion on Structural Equation Modeling. *MIS Quarterly*, 22(1). vii-xvi.

- Dhir, S. & Dhir, S. (2020). Modeling of strategic thinking enablers: a modified total interpretive structural modeling (TISM) and MICMAC approach. *International Journal of System Assurance Engineering and Management*, 11, 175–188. <https://doi.org/10.1007/s13198-019-00937-z>.
- Dixit, S., Singh, S., Dhir, S. & Dhir, S. (2021). Antecedents of strategic thinking and its impact on competitive advantage *Journal of Indian Business Research*, ahead-of-print. <https://doi.org/10.1108/JIBR-08-2020-0262>.
- Dominique-Ferreira, S. (2017). How important is the strategic order of product attribute presentation in the non-life insurance market? *Journal of Retailing & Consumer Services*, 34, 138-144. <https://doi.org/10.1016/j.jretconser.2016.09.013>.
- Dubey, M. & Lakhanpal, P. (2019). EFQM model for the overall excellence of Indian thermal power generating sector. *The TQM Journal*, 31 (3), 319-339. <https://doi.org/10.1108/TQM-07-2018-0090>.
- Ershadi, M.J. & Eskandari Dehdazzi, R. (2019). Investigating the role of strategic thinking in establishing organizational excellence model: A moderating role of organizational forgetting, *The TQM Journal*, 31 (4), 620-640. <https://doi.org/10.1108/TQM-05-2018-0062>.
- Escrig-Tena, A.B., Garcia-Juan, B. & Segarra-Ciprés, M. (2019). Drivers and internalization of the EFQM excellence model. *International Journal of Quality & Reliability Management*, 36(3), 398-419. <https://doi.org/10.1108/IJQRM-08-2017-0161>.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/00224378101800104>.
- Forouzan, B., Attafar, A., & Shahin, A. (2014). Comparison of organizational excellence based on the model of Peters and Waterman with a case study in the steel industry. *International Journal of Procurement Management*, 7(4), 450-472. <https://doi.org/10.1504/IJPM.2014.063171>.
- Goldman, E., Scott, A. & Follman, J. (2015). Organizational practices to develop strategic thinking, *Journal of Strategy and Management*, 8(2), 155-175. <https://doi.org/10.1108/JSMA-01-2015-0003>.
- Grant, R.M. (2016). *Contemporary Strategy Analysis*, Text and Cases Edition, John Wiley & Sons.
- Greatz, F. (2002). strategic thinking versus strategic planning towards understanding the complementariness, *management Decision*, 40(55), 456- 462. [10.1016/j.sbspro.2015.04.864](https://doi.org/10.1016/j.sbspro.2015.04.864).
- Harris, T.E. & Sherblom, J.C. (2018), *Small Group and Team Communication*, Waveland Press. Heath, Ultrastructure of Rust Fungi, Elsevier.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*, 277–319. [https://doi.org/10.1108/S1474-7979\(2009\)0000020014](https://doi.org/10.1108/S1474-7979(2009)0000020014).
- Jankal, R. & Jankalova, M. (2016). The application of The EFQM Excellence Model by the evaluation of Corporate Social Responsibility activities of companies, *Procedia Economics and Finance*, 39, 660-667. [https://doi.org/10.1016/S2212-5671\(16\)30313-6](https://doi.org/10.1016/S2212-5671(16)30313-6).
- Lee, Y. K., Kim, S. H., Seo, M. K., & Hight, S. K. (2015). Market orientation and business performance: Evidence from franchising industry. *International Journal of Hospitality Management*, 44, 28-37. <https://doi.org/10.1016/j.ijhm.2014.09.008>.
- Liedtka, J.M. (1998). *Strategic thinking: Can it be taught?* *Long Range Planning*, 31 (1), 120-129. [https://doi.org/10.1016/S0024-6301\(97\)00098-8](https://doi.org/10.1016/S0024-6301(97)00098-8).
- Mintzberg, H. (1994). The fall and rise of strategic planning. *Harvard business review*, 72(1), 107-114.
- Narver, J. C. & Slater, S. F. (1990). The effect of a market orientation on business profitability. *Journal of Marketing*, 54(4), 20-35. <https://doi.org/10.2307/1251757>.
- Oschman, J.J. (2017). The role of strategic planning in implementing a total quality management framework. *The Journal for Quality and Participation*, 40 (3), 29-33. <https://doi.org/10.1080/10686967.2017.11918508>.

- Para-González, L., Jiménez-Jiménez, D., & Martínez-Lorente, Á. R. (2021). Does EFQM enhance learning and innovation? *Total Quality Management & Business Excellence*, 02 Mar, 1-25. <https://doi.org/10.1080/14783363.2021.1890016>.
- Periañez-Cristobal, R., Calvo-Mora, A., Rey-Moreno, M., & Suárez, E. (2020). Organizational profiles: key factors and results from the EFQM model perspective. *Total Quality Management & Business Excellence*, 07 Jul, 1-24. <https://doi.org/10.1080/14783363.2020.1787144>.
- Puspaningrum, A. (2020). Market orientation, competitive advantage, and marketing performance of small-medium enterprises (SMEs). *Journal of Economics, Business, & Accountancy Ventura*, 23(1), 19-27. DOI: <http://dx.doi.org/10.14414/jebav.v23i1.1847>.
- Rodriguez-Gonzalez, G. G., Sarobe-Gonzalez, G., Duran-Garcia, M.E., Sanchez Fresneda, M.N. & Panero-Taberna, M.M. (2019), Use of the EFQM excellence model to improve hospital pharmacy performance. *Research in Social and Administrative Pharmacy*, 16(5), 710-716. <https://doi.org/10.1016/j.sapharm.2019.08.030>.
- Shaik, A.S. & Dhir, S. (2020), A meta-analytical review of factors affecting the strategic thinking of an organization, *Foresight*, 22 ( 2), 144-177. <https://doi.org/10.1108/FS-08-2019-0076>.
- Shaker, A.Z. & Nambisan, S. (2012), Entrepreneurship and strategic thinking in business ecosystems, *Business Horizons*, 55, 219-229. <https://doi.org/10.1016/j.bushor.2011.12.004>.
- Simuth, J. (2015), E-learning Tool for Improving Managerial Strategic Thinking Skills, *Procedia - Social and Behavioral Sciences*, 197, 703-706. <https://doi.org/10.1016/j.sbspro.2015.07.072>.
- Stan, A. (2006), Stretching strategic thinking, *Strategy & Leadership*, 33, 5-12. <https://doi.org/10.1108/10878570510616834>.
- Tan, C. (2017), Teaching critical thinking: cultural challenges and strategies in Singapore, *British Educational Research Journal*, 43 (5), 988-1002. <https://doi.org/10.1002/berj.3295>.
- Theodosiou, M., Kehgias, J. & Katsikea, E. (2015), Strategic orientations, marketing capabilities and firm performance: an empirical investigation in the context of frontline managers in service organizations, *Industrial Marketing Management*, 41(7), 1058-1070. <https://doi.org/10.1016/j.indmarman.2012.01.001>.
- Uncles, M. (2000). Market Orientation. *Australian Journal of Management*, 25(2), 119-127. <https://doi.org/10.1177/031289620002500201>.
- Yousaf, M. (2021). Intellectual capital and firm performance: evidence from certified firms from the EFQM excellence model. *Total Quality Management & Business Excellence*, 09 Sep, 1-17. <https://doi.org/10.1080/14783363.2021.1972800>.
- Zenab Kazmi, S. A. & Naaranoja, M. (2015), Cultivating strategic thinking in organizational leaders by designing supportive work environment, *Procedia - Social and Behavioral Sciences*, 181, 43-52. <https://doi.org/10.1016/j.sbspro.2015.04.864>.