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Hybridization the interactive role of total quality management and innovation capabilities on competitive advantage

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Abstract:

In a dynamic market, competitive superiority is an important issue, which lack of paying attention to it, can lead to the a failure of investment and production. Total quality management and innovation capabilities are among the important issues in gaining a competitive superiority for companies. Therefore, the purpose of this research is to investigate the interactive role of total quality management and innovation capabilities on competitive superiority with a hybridization approach. In this research, using a systematic review and hybridization technique with Barroso and Sandelowski's seven-stage model, domestic and foreign studies were analyzed in the years 1980 to 2022, and after the initial inquiry and refinement of sources related to the research topic, 42 sources were selected as the final source and categorized by open coding method in MaxQda software. Also, in order to checking the validity of the classifications, Cohen's kappa index was used, which was calculated with a value of 0.861. For the explanatory factors of total quality management, 10 key categories have been identified including: customer focus, design and development, performance evaluation, supply chain, strategic management, market research, management style, organizational culture, organizational learning and employee rehabilitation, and also the explanatory factors of Innovation capabilities have 6 core categories including business capability, knowledge utilization capability, product generation capability, strategic, structural and financial capabilities, and the explanatory factors of competitive superiority include 6 core categories of financial superiority, marketing capabilities, technology and expertise, production capabilities, superiority in providing services and product features. According to the identification of categories and identified components in this research, this possibility was provided for managers to evaluate the interactive role of total quality management and innovation capabilities on competitive superiority in companies.

Keywords: total quality management, innovation capabilities, competitive superiority

Introduction:

In now a day's competitive environment, quality has become a vital tool for evaluating company performance [1]. Because the level of global competition has contributed to significant changes in the way companies operate in their business [2]. And it is a necessity for companies and CEOs around the world to incorporate higher quality products and services as a strategy to gain competitive superiority. Competitive superiority compared to competitors reflects the ability to produce superior value, for consumers, and usually covers dimensions such as quality, cost, delivery and the flexibility [3]. Several quality methods and techniques have been used to achieve this management goal, and it has been proved that Total Quality Management (TQM) is one of the most effective quality techniques applied. Total quality management is a management technique to achieve long-term profitability through customer satisfaction [4]. All members of an organization contribute to this by striving for improving the processes, products, services and culture. On the other hand, innovation

capabilities are described in the literature as a company's ability to introduce new or improved products, processes, services, and marketing approaches to meet market needs. Past literature has shown that innovation capabilities are critical for enhancing brand strength and achieving success in competitive markets [3]. Today, the market dynamics has created a major challenge for every business. One of the solutions that can be the appropriate response for the company to environmental changes is achieving a competitive superiority that helps the company to show more resistance against its competitors in the market [5]. TQM ensures a company's long-term success and focuses on using strategy, data, and effective communication to instill quality discipline in the organization's culture and processes. Innovation capabilities also allow the producer to increase the value of his business. This shows that the interaction of total quality management and innovation capabilities can have a significant impact on gaining a competitive superiority [6].The requirement for success in applying total quality management and innovation capabilities in achieving competitive superiority is to show what dimensions and details these variables include. Therefore, the current research seeks to identify the dimensions and explanatory components of total quality management, innovation capabilities and competitive superiority using a hybridization approach and systematic literature review, and also it will be discussed about the interactive role of total quality management and innovation capabilities on competitive superiority.

3. Methodology

3-1. Society and sample

The population in this research is all the scientific studies conducted on the subject of the research, the most relevant of which have been selected using the hybridization approach. Based on this, the texts and documents from 1980 to 2022 have been examined, and the criterion for choosing this period was that Michael Porter first proposed the term competitive superiority in his book in 1980. In total 4,490 studies were searched, of which 4,448 studies remained during the stages of refinement and elimination, and 42 were left for data analysis.

3-2. Credibility and reliability

Due to the fact that hybridization technique was used in this research, validity and reliability were examined during the seven stages and its full description is presented in the research findings.

3-3. Data and scale

The data measurement tools in this research are library documents and studies. The data collection method was a systematic literature review. Using a hybridization approach in the way of Barroso and Sandlowski, for total quality management, 10 key categories of customer focus, design and development, performance evaluation, supply chain, strategic management, market research, management style, organizational culture, organizational learning and employee rehabilitation are identified. For innovation capabilities also, there are 6 core categories of business, knowledge exploitation, product generation, strategic, structural, and financial capabilities, and for superiority, there are 6 core categories of financial superiority, marketing capabilities, technology and expertise, production capabilities, and superiority in providing services and product features were obtained.

3-4. Research techniques

In current research, the technique of systematic review of literature and also the hybridization technique with the algorithm of Barroso and Sandelowski have been used.

4. Findings

In this study, a systematic review of the literature and the hybridization technique with Barroso and Sandelowski's seven-step algorithm [44] have been used, that are as follow:

4-1. Setting research questions

The first step in Sandolowski and Barroso's method is setting research questions. These questions are generally based on four parameters are adjustable as: what, who, when and how. The scientific databases targeted in this research for the review of scientific texts and documents were Emerald database, Science Direct, Academic Jihad Scientific Information Center (SID) and Iran Information Science and Technology Research Institute (IranDak). In this study, texts and documents from 1980 to 2022 have been examined, and the criterion for this choice was that Michael Porter at first proposed the term competitive superiority in his book in 1980.

Table 1: Research questions in the first step of hybridization technique

Parameter	Questions
What?	What are the explanatory variables of competitive superiority? What are the explanatory variables of total quality management? What are the explanatory variables of innovation capabilities?

Who?	Review of scientific texts and documents in Emerald database, Science Direct, Academic Jihad the Society for Information Display (SID) and Iran Research Institute of Science and Information Technology (Iran Doc).
When?	From 1980 to 2022
How?	Qualitative and mixed research (qualitative-quantitative)

4-2. Systematic review of texts

Based on the questions raised in step 1, the entry and exit criteria for scientific documents and texts are as follows.**Table 2: Entry and exit criteria for scientific documents and texts**

entry criteria	entry criteria	Exit criteria
Geographic Area	All countries	--
writing language	Persian & English	Except Persian and English
publication date	January 1980 to December 2022	Outside of the mentioned time period

Table 3: Searched keywords

Key word	Emerald	science Direct	SID	Iran Doc
Total Quality Management	372	86	214	57
Innovation capabilities	279	83	337	39
Competitive superiority	586	272	1183	51

In general 4490 articles related to the keywords of this research were searched by examining the title in the five mentioned scientific databases. At this stage, screening and selection of appropriate texts were done. In order to select the desired texts in the databases, the articles that had the mentioned criteria were entered into the hybridization process and in four steps in terms of research title, abstract, content and finally the methodological quality of the research using the critical evaluation skills program (CASP) were examined and at last 42 articles were selected. The results of the screening are presented in the form of a Prisma diagram (diagram 1):

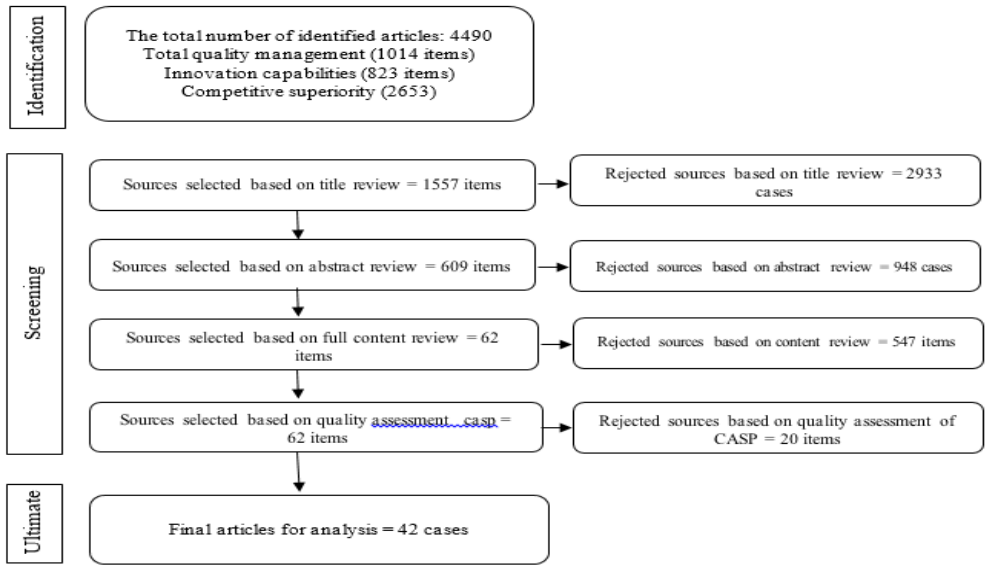

Diagram 1: The process of selecting sources for analysis (Prisma diagram)

4-4. Resource information extraction

In the fourth stage of hybridization, that is the extraction of information from the texts, the selected articles were continuously studied.

Table 4: Extracted codes regarding to total quality management

Indicator	Source	Article code
Customer survey, customer satisfaction assessment, technology investment	Lederer and Ray [45]	E1

Active presence of CEOs in organizational affairs, determination and evaluation of critical processes, evaluation of training programs, employees participation, effective communication with customers and suppliers, survey of customers	Pantovakis Pisomas [9]	E2
Examining customer needs, using employees' opinions in decision-making, transparency in organizational policies, continuous training for employees, emphasis on teamwork, culture governing the organization, relations between managers and employees, strategic planning, commitment of CEOs, CEOs' support to creative ideas, encouraging top employees at all organizational levels	Osman et al. [10]	E3
Continuous assessment of customer satisfaction, needs assessment of employees regarding training topics, employee performance evaluation, applying past experiences, attention to employees' health and safety, documented planning	Al-Shadayft [13]	E4
Identifying the current and future needs of customers, providing appropriate information to employees, periodically measuring customer satisfaction, CEOs' active participation in qualitative matters, focusing on quality improvement, encouraging employees to improve performance, documented meetings with employees to share knowledge and ideas, Rewards for creative employees, promotion of teamwork spirit, close and long-term relationships with suppliers, continuous evaluation of quality, pricing strategies, training of new processes and technologies to employees, identification of the causes of organizational problems, improvement of key processes of the organization, speed in solving Quality problems, use of results and experiences of past projects, market observation, research on new products and processes, analysis of market information.	Buddhist and Okadan[12]	E5
Clarifying the organizational structure, proper communication with customers, proper and continuous relationships with suppliers, gathering market information, evaluating product quality according to international standards.	Rogala[11]	E6
Dealing with customer complaints, calm and safe working environment for employees, improving product quality based on world standards, project documentation and reports	Garmair and Lanning [46]	E7
Committed managers, utilizing expert work teams, formal training of employees, periodic assessment of work processes, and flexibility according to market needs.	Lamir and colleagues [15]	E8
Empowering employees, managers' participation, commitment, periodic evaluation of employees' performance, holding training courses for	Bogdal[16]	E9

employees, customer needs assessment, quality of work processes		
The use of employees' ideas in work and production processes, promoting effective communication between employees and managers, the convey and clarification of the organization's goals to employees, employees flexibility to organizational changes, the responsibility of employees and managers, having a common view point for organization and Employees, encouraging teamwork, focusing on customer needs, proper communication with suppliers, suppliers participation in improving production processes, continuous evaluation of raw materials quality.	Sadeghi Moghadam and Momeni[47]	E10
Leadership and CEOs commitment, focusing on the supplier, training and empowering employees, involving and participating employees and teamwork, focusing on the customer and gaining his satisfaction, performance measurement, process evaluation, information flow and appropriate use of information, process/product design , modeling successful experiences, setting policies and operational planning, culture feedback and change management, monitoring and supervisory leadership, integrated quality management systems, employees satisfaction, applying statistical process control, external communication management, intra-organizational communication	Soleimani Nejad Kohi [48]	E11
Multitasking product design, production process management, customer surveys, production scheduling, raw materials on-time receiving, applying modern technology,	Dehghan Dhanvi [14]	E12
policies and Quality control systems, management commitment, product design, suppliers evaluation and selection, evaluation of production processes, employees' relations quality, customers' relations quality, empowering employees, organizational culture strengthening, teamwork	Zarrori [49]	E13

Table 5: innovation capabilities Codes extracted from the texts

Indicator	Source	Article code
Seeking Knowledge, knowledge exploitation, knowledge retention, decision-making ability, social integration, intellectual property	Adamides and Karakapilidis [20]	E14
Designing new products, designing new production processes, applying nowadays strategies, ability to improve the organizational structure	Molden and Clawson[22]	E15
Seeking new skills, using knowledge of the world's scientific databases, applying new methods and processes, the ability to adapt new technologies.	Farzaneh et al. [21]	E16
new equipment and/or technologies development, new products and/or services development, existing knowledge improvement and development, existing	DeSilva et al. [50]	E17

skills improvement and development, work processes improvement and development		
Creating a new market for products and services, diversity and improvement in product performance, applying new technologies in production	Ann et al. [42]	E18
Number of resources for business planning, number of resources for research and development, number of resources for commercialization	Kim and Jin [23]	E19
Customer orientation, competitor orientation, technological orientation, learning orientation, focusing on product design, time management	Pariano and Hidayat[24]	E20
The company's ability to reorganize the structure of the organization, the culture of integrating external and internal knowledge, economies of scale, efficiency in coordinating assets and resources, implementing internal knowledge in business ideas outside the organization's main business and market.	Van Lischat et al. [51]	E21
Technological supervision, technology attraction, development process formalization, production planning quality, production cost reduction	Zavislak et al. [52]	E22
Ability to interpret resources, identify business opportunities, interaction ability, ability to identify core and new competencies, collaboration and learning	De Aro and Perez [53]	E23
opportunity creation capacity, ideation ability, individual knowledge, internal motivation, creativity, risk taking, organizational communication capacity, organizational knowledge capacity, active participation, technological capacity, support capacity, shared vision, financial resources, human resources, interaction with the external environment Organization	Yarahamdi et al. [25]	E24
Career motivation, learning and training, merit-based encouragement, resource integration capability, resource reconfiguration capability, organizational agility, sharing ideas.	Karimi et al. [54]	E25
Organizational structure, communication mechanisms, research and development budget, staff training cost, purchasing equipment, upgrading technical and organizational knowledge	Attaran et al. [55]	E26
Organization information and communication technologies, cooperation level with the environment and the customer, the exploitation of customer knowledge, the organization of customer knowledge, organization flexibility	Poursaid et al. [56]	E29
Finding opportunities, generating ideas, individual knowledge, management strategies, management style, flexibility, risk taking, interaction, absorption and accumulation of knowledge, information sharing, research and development	Haghigi et al.[57]	E30

Table 6: Competitive superiority codes extracted from the texts

Indicator	***Source***	***Article code***

Financial success, market share, reputation, technological capacity	Klaus et al. [28]	E31
Continuous communication with suppliers, readiness for change	Kalaitzi and Tsoulaskis [58]	E32
Access to cheap resources, access to modern equipment, increase market share	Fatuki[29]	E33
Quality, innovation, price, cost, on-time delivery, production flexibility	Frida and Setyavan[59]	E34
Production cost per unit, product fixed price, selling price to the final consumer, after-sales service, delivery speed, product quality, packaging style	DeAndres Sanchez et al. [60]	E35
Introducing new products, production with lower cost, flexibility in product design, product customization, speed in product delivery	Vittorino and Murray [32]	E36
Reliable delivery, fast delivery, the ability to quickly introduce new products or make changes to the design, high performance products, low production cost, the ability to quickly change production volume, short production cycle time, stable quality.	Ahmad and Schroeder [31]	E37
Knowledge stock, continuous communication with customers and suppliers, flexible production structure, limited imitation possibility	Nazari et al. [26]	E38
Product efficiency, response speed, production capacity, quality	Soltani et al.[61]	E39
Speed in innovation, flexible production capacity, access to resources	Keramikhah[30]	E40
Appropriate distribution system, production quality, access to technology, access to raw materials, low production cost, expert human recourses	Hosseini and Panahi [62]	E41
Access up-to-date knowledge, customer satisfaction, access to flexible production system, access to resources	Rahimi Aghdam et al. [63]	E42

4-5. Analyzing, and combining and presenting the findings

At this stage, the researcher first classified all the extracted codes according to the process provided by Barroso and Sandelowski [44] for the analysis of the data in the hybridization, based on the subject and appropriate category into components and indicators, in order to forming the research concepts.

4-6. Quality Control

Then, obtained information quality was evaluated and controlled. Validity means concepts including defensibility, believability, verifiability and even reflectivity of the results of realization. In this research, the following actions were taken for quality control. Throughout the research, an effort was made to provide clear explanations for the research options. Both electronic and manual search solutions were used to search researches. Also, in this research, an attempt has been made to use reliable scientific sources, and the sources that had insufficient scientific validity according to the entry and exit criteria presented in the second step, were excluded from the study cycle. At this stage, Cohen's kappa index was used to validate the coding process and control its quality. In order to calculate the Kappa index, an expert in the subject was asked to merge and categorize the codes without knowing how the researcher merges the codes. Then, using SPSS software, the classification provided by the researcher has been compared with the classification provided by the expert. If the two researchers' categories are close to each other, indicates a high agreement between these two coders and reliability statements. Considering the number of similar and different categories between the researcher and the expert, the Kappa index equal to 0.861 was calculated at a significance level of $P<0.01$, which shows a good level of agreement between the two coders.

4-7. Presentation of findings

In the last step, hybridization of the analysis results and model extraction are presented. In this research, with the synthesis of 42 articles, the 46 components in the form of 10 core categories for total quality management (Table 7), 36 components in the form of 6 core categories for innovation capabilities (Table 8) and 27 components in the form of 6 core categories It was identified for competitive superiority (Table 9).

Table 7: Core categories and total quality management components

Factors	Components	Article code
customer focus	Customer survey	E1, E2, E9, E11,E12
	Customer satisfaction assessment	E1, E4, E5, E11
	Effective communication with customers	E2, E6, E11, E13
	checking customer needs	E3, E5, E9, E10, E11
	customer complaints verification	E7
Design and development	Investing in technology	E1, E12
	Multitasking product design	E12
	Research on new products and processes	E5
Performance evaluation	Focus on quality improvement	E5, E7, E9
	Continuous assessment of product quality	E5, E6, E10, E10
	Continuous assessment of raw materials quality	E5, E10, E10
	Speed in solving quality problems	E5
	Documentation of production information and reports	E7
	production processes determination and evaluation	E2, E8, E11, E12, E13
	Employee performance evaluation	E4, E9, E11
	Identifying organizational problems causes	E5
Supply Chain	Effective and long-term relationship with suppliers	E2, E5, E6, E10, E11, E13
	suppliers involvement in improving production processes	E10
	Receiving raw materials on time	E12
strategic management	organizational goals and policies transparency	E3, E6, E10, E11
	strategic planning	E3, E4, E11, E13
	Pricing strategies	E5
	Having a common vision for the organization and employees	E10
	Production schedule	E12
Market research	Flexibility to meet market needs	E8
	market monitoring	E5, E6
	market information analysis	E5, E11
Management style	CEOs active presence in organizational affairs	E2, E5, E9
	CEOs commitment	E3, E8, E9, E10, E11, E13
	Supervising all production and organization affairs	E11
Organizational Culture	Using employees' opinions in decision makings	E3, E10, E11
	Teamwork emphasis	E3, E10, E11, E13
	Communication between managers and employees.	E3, E10, E11, E13
	Enhancing teamwork spirit	E5, E13
Organizational learning	Assessing employees needs regarding educational topics	E4
	employees continuous training	E3, E8, E9, E11
	employees empowering	E9, E13

	employees flexibility to organizational changes	E10, E11
	Appropriate transfer of information to employees	E9, E11
	Using past experiences	E4, E5, E11
	Training new processes and technologies to employees	E5
Employee rehabilitation	Encouraging top employees at all organizational levels	E3, E5
	Attention to the employees' health and safety	E4, E7
	Rewards for creative employees	E5
	employee satisfaction	E11, E13
	CEOs' support for creative ideas	E3

Table 8: Core categories and innovation capabilities components

Factors	Components	Article code
Ability to acquire knowledge	Seeking knowledge	E14, E16, E17, E30
	Knowledge development	E17, E20, E26, E30
	Search for new skills	E16, E17
	Equipment development	E17, E22, E26
	Sharing opinions and ideas	E25, E30
	Ability to gain specialized human resources	E25
	cooperation level with the environment and the customer	E20, E26
The ability to use knowledge	Exploiting employees technical knowledge	E14, E16, E19, E26, E29
	Adaptation to modern technologies	E16, E18
	Integrating external into internal knowledge	E21, E30
	Implementing internal knowledge into business ideas outside of the organization's core business and market	E21, E29
	Ability to generate ideas for managers and employees	E24, E30
	Ability to interpret knowledge sources	E19,E23
Product production capabilities	Designing new products	E15, E16, E17, E20
	Design and development of new production processes	E15, E16, E17, E18
	product performance variety and improvement	E16, E17,E18
Strategic capabilities	Use update strategies	E15, E20
	Ability to monitor competitors' strategies	E20, E26, E30
	Identifying business opportunities	E19,E23, E24, E30
	Creating a new market for products and services	E18, E23, E24
	Organization of customer knowledge	E16, E19, E26, E29
	Knowledge retention	E14, E20, E26
Structural capabilities	Ability to develop extra-organizational communication	E24
	Ability to improve organizational structure	E15, E21, E25
	Internal communication capacity	E23
	organization agility in monitoring market and customers' needs	E25, E30
	Risk taking power	E24
Financial capabilities	Ability to reconfigure resources	E25
	coordinating assets and resources efficiency	E21
	Ability to identify core and new competencies	E23
	Scale economy	E21, E22

	Ability to access financial resources	E24, E30

Table 9: Core categories and competitive superiority components

Factors	Components	Article code
Financial superiority	financial condition	E31
	Access to cheap resources	E33, E40, E41
	Selling price to final consumer	E35
	Low fixed price	E35, E36, E37, E41
Marketing ability	Market share	E31, E33
	Speed in introducing new products	E36, E37
	Speed in responding to market needs	E39
	Customer satisfaction	E42
	Limited imitation possibilities for competitors	E38
Technology and expertise	Technology capacity	E31, E41
	Access to modern equipment	E33, E40, E41
	Access to up-to-date knowledge	E42
	expert human resources use	E42
Production capabilities	High production capacity	E39
	Low production cycle time	E37
	Continuous communication with suppliers	E32, E38
	Product customization	E36
	product design flexibility	E36, E37
	change preparation	E32
	Achieving a flexible production system	E34, E37, E38و E39
	Speed in designing new products	E39, E40
providing services superiority	goods delivery speed	E35, E36, E37, E41
	Quality in the way the product is shipped	E41, E37
	after sales service	E35
Product features	Brand reputation	E31
	Stable quality	E34,E37, E39
	Packaging style	E35

After completing the data hybridization steps obtained in the above tables, it was implemented in MaxQda software to provide a conceptual model, and the interactive role of total quality management and innovation capabilities in creating competitive superiority was presented in the form of the model shown in Figure 2.

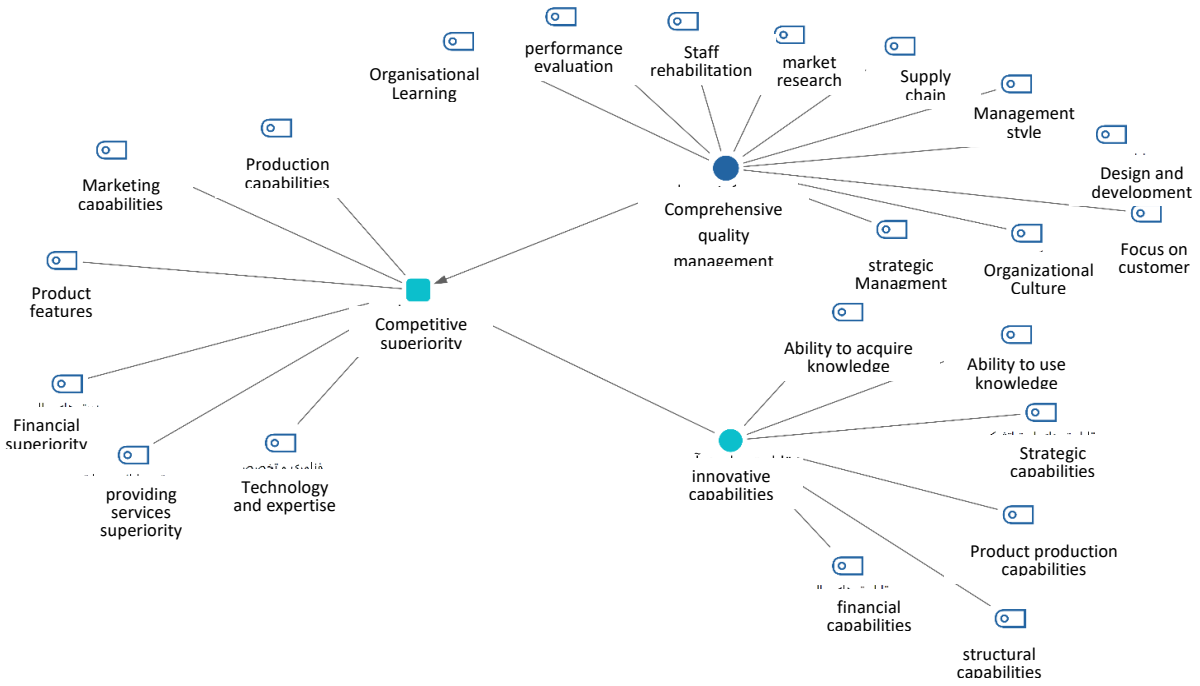

Figure 2: interactive role of total quality management and innovation capabilities model on gaining competitive superiority

5. Discussion and conclusion

Obtained results for total quality management have 10 core categories and 46 components, which include customer focus, design and development, performance evaluation, supply chain, strategic management, market research, management style, organizational culture, organizational learning, and employee rehabilitation that these categories have mentioned in most of the domestic and foreign researches such as Pantovakis and Pomos [9], Osman et al. [15] and Bogdal[16].Regarding innovation capabilities, 6 core categories and 32 components were identified, which included business, knowledge exploitation, product generation, strategic, structural, and financial capabilities. This category and components are mentioned in the research conducted by Adamides and Karakapilidis[20], Farzaneh et al.[21], Madeleine and Clausen[22]), Kim and Jin[23], Priono and Hidayt[24] and Yarahamdi et al.[25].According to research findings, competitive superiority includes 6 core categories of financial superiority, marketing capabilities, technology and expertise, production capabilities, superiority in providing services and product features, and 27 components. The reviews carried out on various researches showed that the studies of Klaus et al.[28], Fatuki[29], Karmikhah[30], Ahmed and Shurder[31] and Vittorino and Mori[32] are aligned with these categories.Based on research findings, total quality management has ten components. Among these ten components, performance evaluation with eight indicators is more important, and followed by organizational learning with seven indicators. In the next ranks are strategic management, employee rehabilitation and customer focus with 5 indicators. Organizational culture with 4 indicators and management style, market research, design and development are placed next to the supply chain, each of which has three indicators in the next ranks of effectiveness. This shows that proper performance evaluation can play a significant role in total quality management, because proper evaluation can identify deviations, weaknesses, and strengths, and it can help in allocating organizational resources for effective factors. Otherwise, resources may be spent on indicators and factors that do not have much impact on the final performance of the organization. Due to this reason performance evaluation methods have been presented by different researchers. Methods such as balanced scorecard or six sigma are among them. All these efforts are due to the importance and role of performance evaluation. The second important component is organizational learning. Since the employees have an important and essential role in processes and programs results, therefore, the more capable the employees are, the more confidence you can have in the success of total quality management, because all the processes, including the evaluations, are performed by the employees and as much as employees gain the necessary abilities in professional skills and professional ethics field, we can have more confidence and trust in the results of their performance.Regarding innovation capabilities, the ability to acquire knowledge with 7 indicators is in the first rank of importance in terms of the number of indicators. Strategic capabilities and the ability to use knowledge each of which are ranked next to the 6 indicators. In the next level, Financial and structural capabilities are ranked next to 5 indicators and along with product production capabilities with 3 indicators. According to these findings, in order to increase innovation capabilities, the subject of knowledge has a special position from the stage of acquisition to its exploitation. In general, innovation requires the existence of knowledge and its usage. Acquiring knowledge refers to items like searching for required knowledge, developing equipment, searching for new required skills, developing existing knowledge, to interaction or environment with customers. On the other hand, after acquiring knowledge, the company should be able to exploit it, having new technologies, employees with high technical knowledge, managers' view toward new ideas and dominance on organizational resources, along with the level of cooperation with external forces and the integration of the organization's knowledge with External partners or the conversion of internal knowledge into application are all indicators of knowledge acquisition and utilizing it. In addition to these cases, innovation requires the absence of a similar product or making a change in an existing product, for doing this it is necessary for managers to create a strategic point of view and continuously monitor competitors' activities. Also, the existing opportunities for identification, segmentation and targeting in the market for new products should be taken seriously. Otherwise, an innovative product that is the result of the search and knowledge application cannot contribute to company innovative capability.Research findings show that competitive superiority is as an important factor with six components. Based on the frequency of indicators, production capabilities component ranks first with 8 indicators. Market capabilities with 5 indicators and financial and technological superiority and expertise with 4 indicators are in the next ranks. Product features and superiority in providing services each of which are in the last position with 3 indicators. These findings show that the production capabilities to create a competitive superiority should be

highly considered by the managers. In a competitive market, it is very important to respond to the market demand and this is the reason why the production capacity plays an essential role. On the other hand, due to the variety of demands, in addition to the production capacity, companies should pay attention to the product customization capabilities, flexibility in design, and for doing this, managers, employees and organizational processes must be ready to change. On the other hand, nowadays, in a competitive market, responding speed to demands is very important, otherwise competitors may respond quickly to customers' needs and expectations, so speed plays an essential role in design and production cycle time. The realization of many of these cases requires effective communication with suppliers. All these indicators are included in production capabilities category. After that, marketing capabilities play an essential role in creating a competitive superiority. In other words, acceleration in new products introduction and responding speed to market needs can limit competitors' power for imitation, on the other hand, gaining market share, which is possible by gaining customer satisfaction, all of them can be considered as an effective tool for success against competitors. Today, any condition that causes competitors have less ability to imitate or doing this at a higher cost will increase the competitive superiority.According to the investigation of the empirical bases of total quality management research and innovation capabilities that have an effect on gaining competitive superiority, therefore, company managers can evaluate the interactive role of total quality management and innovation capabilities on competitive superiority by examining the status of the identified categories and components in their company.

6. Limitations and future research

As one of the limitations of this research we can mention to the lack of access to a number of published articles, as well as the mere reference to the study of articles published in databases. Although the application of this approach leads to the improvement of the credibility of the research, but it carries the risk of published articles biasing due to the lack of exploitation of the gray data of the research background, which should be taken into account in the final evaluation and interpretation of findings. In order to the future research, these issues should be considered by other researchers: quantitative examination of importance and position of total quality management components and innovation capabilities in creating competitive superiority and structural-interpretive modeling as factors that can affect competitive superiority.

7. منابع و ماخذ

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