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INVESTIGATING THE RELATIONSHIP BETWEEN QUALITY MANAGEMENT AND ORGANIZATIONAL INNOVATION

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Resumen: Uno de los beneficios de implementar la gestión de la calidad en las organizaciones, estableciendo un proceso de gestión de la innovación en ellas. Según la expresión del experto, la gestión de la calidad y la innovación tienen una gran importancia para la organización y también tienen un objetivo común para satisfacer las necesidades de los clientes. En la última década, la innovación en las empresas es vital para la supervivencia de las organizaciones, de tal manera que esas organizaciones no tienen el poder de cambio y la alineación con las condiciones ambientales se eliminan del círculo de competencia. Con base en la literatura, uno de los principales factores que influyen en la innovación es la existencia y el establecimiento de sistemas de gestión de la calidad. En este trabajo, intentamos investigar la relación entre los procesos de gestión de la calidad y la innovación en las organizaciones y los resultados de las investigaciones más importantes recogidas y presentadas. Los resultados de la revisión de la literatura indican que existe una relación positiva entre el sistema de gestión de calidad y la innovación organizacional.

Palabras clave: Innovación, gestión de calidad, TQM, ISO 9001

Abstract: One of the benefits of implementing quality management in organizations, establishing an innovation management process in them. According to expert's expression, quality management and innovation both have great importance to the organization and also have a common goal for meeting customer needs. In recent decade, innovation in enterprises is vital for the survival of organizations, in such a way those organizations have no power of change and alignment with environmental conditions are eliminated from the competition circle. Based on the literature, one of the main factors influencing innovation is the existence and establishment of quality management systems. In this paper, we tried to investigate the relationship between the processes of quality management and innovation in organizations and the results of the most important researches collected and presented. The results of the review of the literature indicate that there is a positive relationship between the quality management system and the organizational innovation.

Keywords: Innovation, Quality management, TQM, ISO 9001

1. INTRODUCTION

Based on recent researches conducted in the field of quality management, there are many reports on the usefulness of establishing a quality management system in businesses. These researches show those businesses that have been set up quality management systems for improve organizational performance with internal motivations in addition to external incentives, significantly more than any others, have been achieved the benefits of deploying this system (Kriangkrai, et al.,2016; Bayat & Taghavi,2007; Fening, et al.,2008; Sampaio, et al.,2009; Stanciu, et al.,2014). One of the benefits of the implementing of quality management in organizations, establishing an innovation management process that many researches have confirmed the positive relationship between the quality management system and innovation in the companies and state that the quality management system and innovation have a common goal to meet the needs of customers and this goal can easily be achieved by supporting different activities of the quality management system to increase and root innovation processes (Ruiz-Moreno, et al.,2015). Also, some researches have stated that the relationship between the organizational innovation and the existence of quality management is still not clear, and in some cases have negative relationship (Zeng, et al., 2007; Prajogo & Sohal, 2006). Due to the lack of studies in the related literature, this research has been reviewed the latest study's findings about the relationship between the establishment of quality management and the organizational innovation in businesses and reported the opposite and agree points of researches.

2. RESEARCH METHODOLOGY

In this research, based on qualitative methodologies (Homan, 2006; Bazargan, 2008), the published electronically articles from 2003 till 2017 by

international academic publishers, have been reviewed deeply. In this study, because of the commonality of the philosophy and Origin of the quality management system (QMS based on ISO 9001 standard) and total quality management (TQM), also for the ease of carrying out the research, TQM and QMS were considered same and integrated and the relationship between them and the organizational innovation have been investigated. The key words used in this research were quality management, quality management system, ISO 9001, TQM, QMS, innovation and organizational innovation which conceptual articles have eliminated and those published on the relationship between quality management and organizational innovation have been used. Then, based on the comprehensive review of articles, the findings of the research, including agree and opposite opinions on the existence or non-existence of the relationship and its type, had reported.

3. INVESTIGATION OF PREVIOUS RESEARCH

Based on the literature, it is noted that many researches have been carried out to investigate the relationship between quality management and innovation in organizations. For example, study the moving towards innovation from quality management (De oliveira matias & Coelho,2011), the effect of quality management on innovation (Manders,2012;Steiber & Alange,2013), the relationship between quality management practices and their effect on innovation (Nair,2006), Correlation studies between the performance of the organization through quality management and innovation in Australian companies (Prajogo & Sohal,2003) , similar study on Singaporean companies (Feng, et al.,2006), Investigating the Direct Effect of Quality Management on Innovation in Taiwan's Small and Medium-Sized Businesses

(Hung,et al.,2010;Hung,et al.,2011), Study the effect of Quality Management on Organizational Learning in Innovation (Feyzollahi,et al.,2012) And so many others could be mentioned. The results of some studies show a positive result of the relationship between quality management and innovation (Al-Refaie,et al.,2011), and some others have reported negative impact of quality management on innovation performance or the absence of a meaningful relationship (Singh & Smith, 2004). Also, some researchers (Prejogo & Sohal,2006) have studied the technology management processes (and R&D activities) which did not find a meaningful relationship between product and process innovation and quality management in the organization and they argued quality management was more influential on the production process, and innovation management on the design process is more effective.

In spite of the above research, other studies were carried out at research and development units of South Korean and Taiwanese companies which found evidences and confirmation of the correlation between quality management and innovation (Hong & Huaug,2011),Other studies on the Outcomes of Innovation from Comprehensive Quality Management (Perdomo-Ortiz,et al.,2006),The direct relationship between the various drivers of quality management and its relationship with innovation (kim,et al.,2012),The direct effect of product quality management on product innovation in Malaysia's e-commerce companies (Lee,et al.,2010), And similar research in Vietnam (Hoang,et al.,2006), All of them have argued the positive relationship that influences quality management on innovation. In regard of investigating the impacts of the ISO 9001 quality management standard deployment on innovation, the finding of some studies reported contradictory results on the existence of an effective relationship between ISO 9001 and innovation (Gutierrez,et al.,2010;Ooi,et al.,;Wei,2010;Santos-Vijande & Alvarez-gonzalez,2007;Harris,et al.,2013).

In the following, it can be stated explicitly that in today business environment, the competitive advantage has shifted from quality to innovation. Innovation allows companies to quickly adapt themselves to the changing environment and help them develop and deliver new products, new markets, and respond to market uncertainty. However, none of the innovative companies can succeed in their business without complying with industry standards and requirements of the industry

and customers, and quality management is appropriate to facilitate compliance with the requirements of the competitive environment (Zehir, et al., 2013).

Most of the research on quality management has consisted of four dimensions of senior management support, employee participation, continuous improvement and customer focus, the researches also state that quality management cannot be a barrier to innovation in the organization. Based on other researches, it has been proven that quality management practices are consistent with the principles of innovation and it recognizes the quality management as the basis for organizational culture, which promotes innovation and positively impacts on innovation. Finally Quality management is considered not only as an important foundation in the development of innovation but also as a vital facilitator in the process of organizational innovation (kazazi & Shool, 2013). In recent decades, users of quality management practices have gained significant benefits from this perspective (Riillo, 2014). For this reason, quality management practices and their standards are now widely available to the public and used by businesses around the world. From another perspective, more than one million 9001 certificates have been issued to corporations worldwide at present (ISO, 2016) and this is a reflection of the pervasiveness of these systems in business And it can be argued that at present, quality management methods have become an appropriate tool for improving performance rather than being considered as an advantage in a company (Chesbrough, 2011).

Based on the definitions in the literature, quality management means a systematic way of ensuring that planned activities are carried out on a planning basis. Also, quality management is vital activity for the organization and is expected to be directly and indirectly implemented in order to realize the quality improvement and the performance of the competition. Therefore, in most of the results in the literature, the relationship between the establishment of quality management and organizational performance is shown positively. In total, the benefits and benefits of establishing this system can be classified into two groups as follows (Briscoe,et al.,2005;Singh,et al.,2007;Karipidis,et al.,2009;Bayat & Taghavi,2007):

a) Internal benefits: such as improving quality, improving productivity, improving organizational communication.

And b) external benefits: market development, increasing competitive advantage and customer satisfaction.

Also, for defining the second element of this research, innovation has been categorized into three modes of innovation in a new product, a new service and a new process, or changes in the production and delivery of new products and services (Avermaete, 2003). Since the early 2000s, researchers have largely conducted studies on the relationship between quality management and innovation, and several research results have suggested that quality management can be one of the prerequisites for innovation in business (Kafetzopoulos, et al., 2015). In some researches, researchers have advanced the benefits and impact of quality management in the organization's performance and expressed the existence of a quality management system in the organization as an innovation trigger (Naveh & Marcus, 2005).

Now in the global competitive market, quality and innovation both play a vital role in the survival of companies, and if innovation is part of the corporate culture of a company, we can see competitive advantage and performance enhancement in this company (Zeng, et al., 2007).

Research shows that organizations implement innovation in businesses in both ways: imitative innovation from other organizations or the way they create themselves. But the simplest way to institutionalize it is to create and establish these processes in the context of quality management and can be considered as a result of its implementation principles in the organization. The research emphasizes that the establishment of innovation processes in the context of the quality management system in the organization will bring the following achievements to the forefront (Ruiz-Moreno, et al., 2015).

1. Establishing a continuous improvement cycle will make employees more responsive to new ideas.
2. Creating a culture of orientation towards client-centered changes in the organization, providing the basis for responding to the stakeholders and creating customer satisfaction with their needs and stimulating innovation.
3. Increasing staff training in the organization creates knowledge and facilitates basic staffing and preparation of the understanding and acceptance of new systems for their duties.

4. Developing team empowerment and teamwork to generate ideas for employee empowerment and encourage innovation.

5. A model for full implementation of the innovation cycle and adaptation to different levels of the organization to support the organization in order to better perform the innovation process.

Agreeing and opposing views on the relationship between quality management and organizational innovation

In some researches, while investigating the relationship between methods and methods of quality management and performance of the organization, it is stated that utilization of various methods of quality management is correlated with different dimensions of organization. For example, its positive impact in increasing market share, reducing costs and profitability can be noted. Quality management is a general-purpose quality improvement approach that has been promising for companies to generate quality and innovation over the past two decades (Riillo, 2014).

Researches have proven that if quality management models are successfully implemented, they are considered to be a competitive advantage for businesses, and both the concepts of quality and innovation of today's business-driven guides are sustainable to provide competitive advantage (Zehir, et al., 2012).

Quality management is a quality-based approach that influences quality performance. Total Quality Management (TQM) dimensions, such as leadership, process management, employee participation and customer-centricity, are jointly approved activities to improve the quality of companies. Positive relationship studies confirm TQM dimensions with innovative performance (Zehir, et al., 2012). From another perspective in the large scale of management, quality management is a strategy that can improve learning and, as a result, increase competitive advantage. Rapid market changes and reduced product longevity are a major challenge in competitive markets that have led organizations to take advantage of technological innovations. In a turbulent environment today, organizational learning will enhance the organization's ability to innovate and maintain competitive advantage among other competitors. As a result, the organization can maintain its competitive advantage by producing new products and managing quality. Adoption of comprehensive

quality management as an important strategy plays a fundamental role in distinguishing organizations in the field of innovation. (Kazazi & Shool, 2013). in today's competitive business and business environment, continuous management of change and innovation is a must-have commitment. And by leading businesses that pursue the goal of market excellence, much attention is being paid.

Studies show that the advocates of customer orientation in quality management consider very important encouragement for organizations to move towards change and innovation. And the principle of focusing on the customer is a factor in moving towards innovation in products and services, in order to meet the needs of customers. Also, continuous improvement, which is one of the principles of thinking based on quality management, is a force in the organization to innovate. Finally, the principle of employee participation emphasized by quality management models creates a sense of independence and self-development and moves towards the presentation of innovative ideas in the organization (Hadavand, et al., 2012).

In other studies concerning the impact of the establishment of quality management on R & D units of companies, its positive relationship on the unit's R & D performance were concluded and the following findings were obtained (Neyestani, et al., 2013):

- 1- Conducting and focusing more research and development units on customer needs
- 2- To create the integrity of the research and development unit and other organizational departments in order to exploit the opportunities of innovation.
3. Conducting the activities of this unit in the direction of continuous improvement
4. Facilitate and enhance the sharing of organizational knowledge

In contrast to the advocates, some small studies have reported a lack of relationship or negative impact on the establishment of quality management on innovation. For example, some studies conducted in Australian companies in 2004 did not confirm the relationship between the impacts of ISO 9001 on innovation performance in the organization (Riillo, 2014). The opponents' argument in general was that customer focus, based on the approaches of the quality management system, disregarded companies from discovering potential and hidden opportunities. Also, with emphasis on continuous improvement and in the process of achieving

maximum efficiency, organizations may deviate from the path to true transcendence. Finally, in terms of employee participation, they argue that leveraging quality management models for employee participation essentially diverts from creative and innovative tendencies (Neyestani, et al., 2013).

4. CONCLUSION

Quality management is always considered as one of the main factors of development in the components of business management and is mainly exploited by most companies in response to the major and serious problems of management and competition. On the other hand, innovation is a guaranteeing and sustainable business asset in the competitive environment in the current decade. Therefore, research in the field of evaluation and the importance and clarity of the relationship between the quality performance of businesses and the creation and activities of innovation in them is vital and necessary. In the literature, the three roles of quality management, which include customer focus, continuous improvement, and employee participation and teamwork, are almost universally accepted by the researchers (Hadavand, et al., 2012; Ruiz-Mereno, et al., 2015). In a research carried out by Kozazi and Shool (Kazazi & Sholl, 2013), it has been proven that innovation performance is 79% directly influenced by the implementation of quality management in an organization. Implementing different models of quality management in the organization creates a culture that promotes the development of innovative climate. One of the outcomes of this organizational culture is the creation of organizational learning, which is one of the main fields of discovery and identification of the developmental opportunities of innovation.

Therefore, based on comprehensive literature studies, the topic is explicitly mentioned in most researches, there is a positive and effective relationship between quality performance and innovation of the organization and in particular its positive effect on identification and satisfaction of customer requirements (Ruiz-Mereno, et al., 2015). Also, in many studies, the effect of quality management on participation and teamwork that is a major contributor to the identification of organizational innovation opportunities has also been proven (Ruiz-Mereno, et al., 2015; Kafetzopoulos, et al., 2015).

As stated in this article, numerous studies have reported the utility of applying quality management

models to empower businesses to enhance their performance in a competitive environment (Sampaio, et al., 2009; Jayasundara, et al, 2014; Psomas & Antony, 2015). One of the achievements of establishing quality-oriented approaches and quality management models is the creation of a culture and process of innovation in business. As we know, in the present era, the competitive environment has gotten much more complex than previous decades. And the continuity and growth of business life requires innovation and, consequently, responding to the current (actual) and future (potential) needs of the market and customers. Quality management systems provide a cohesive and systematic exchange of knowledge and practice through the creation of a cultural and operational framework in organizations, ways of obtaining and collecting environmental information, signs of change in opportunity resources, organizational learning and From this perspective, it provides the basis for learning from the outside and inside of the organization to identify and discover innovative opportunities.

Proponents of effective and positive relationships point out the following results from the impact of quality management on innovation performance (Hoang, et al., 2006; Zehir, et al., 2012):

- Impact on individual performance of human resources for participation in the innovation process
- Positive impact on the promotion of group work culture
- Influence on organizational culture to create an atmosphere of innovation in the organization
- Creating more customer satisfaction in terms of meeting the requirements of innovation in new products and services.
- Speed in competitive performance in the marketplace
- Speed in harmony with competitive environment changes
- Development of combined results in company performance in marketing processes, design, process development, and new products and services.

Despite the positive results in many studies, since there is no precise definition of the concepts of quality, innovation, and entrepreneurship in literature. And since the establishment of quality management systems requires the existence of sufficient knowledge and ability by organizations, For this reason, in some in the researches, there are indications of negative results in the existence of effective and positive relationship between the

qualitative and innovative performance of organizations. Whose proportion in the literature of the subject is clearly and significantly lower than the results of the existence of an effective and positive relationship. Therefore, it can be argued that so far the dominant researches have positively influenced the existence of quality systems in organizations on innovation performance and reports suggest a positive forward-looking relationship in this regard.

Again, the opponents of the reason for the lack of effective and positive relationship between quality management and innovation performance are as follows (Hoang, et al., 2006; Riillo, 2014):

- Argument that customer satisfaction is in improving product quality, and not just innovation and new products
- The argument that the creation of innovation through employee participation requires extensive and massive investment in the training and promotion of their technical knowledge, and this is impossible in most businesses.
- The argument that the existence of systematic standards and procedures reduces the climate of creativity in the organization

Finally, it can be clearly stated that despite numerous studies in the literature on quality management and innovation, each separately, as well as the relationship between them and their effect on each other, there are still many questions and ambiguities regarding the clear judgment about the existence. And the exact type of impact of different aspects of quality management on the process of organizational innovation in their various categories, including the impact on product innovation or service or processes in the literature, Which expresses the requirement and need for more research from researchers in these areas (Riillo,2014;Kafetzopoulos,et al.,2015). Also, the majority of studies conducted on the basis of the quantitative studies paradigm [34] and since the field of innovation is among entrepreneurship studies, so suggested that Researchers will explore the relationship between the effect of quality management on innovations in organizations through exploratory and interpretive qualitative research based approaches, to identify the unknown dimensions of the phenomenon desired.

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