The Effects of Quality Management Practices and Organizational Learning on Organizational Performance: A Proposed Research Framework

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Abstract

In a rapidly developing IT business environment, quality management practices in various forms are inevitable. Information Technology industry is experiencing the fastest growth in the Bosnian economy over the past five years. Therefore, they are constantly adapting to meet the challenges of digital transformation and to satisfy the expectations of today's customers. The best way in which an organization undertakes business activities is through quality management practices and organizational learning, which improves product quality and reduce product returns and the cost of servicing dissatisfied customers. This approach ultimately leads to an improvement in the company's performance. This study proposes a research model based on extensive literature review. This model may serve as a good basis to investigate interrelationships between TQM practices, organizational learning, and organizational performance. It may also help to determine if organizational learning fosters plays a mediating role between TQM practices and performance in IT Sector. Further validation of the model is strongly recommended to future researchers.

Keywords: quality management practices, organizational learning, organizational performance, IT industry.

1. Introduction

In recent years, many companies have realized using the traditional approach to quality will not help them achieve their full potential. In a dynamic environment, traditional organizational structures and management practices are considered inadequate. Many companies are in a constant search for strategies and processes that will help them gain competitive advantage, therefore most companies are trying to implement certain strategies, but fail due to a number of facts. In order for a company to achieve and later maintain its competitive edge in a fast-growing market, it needs to have the appropriate means by which it will be able to meet the needs of its customers and thus secure a leading position in the market. The modern approach to quality was affected by the development of high-quality Japanese items that overflowed the western world in the last century (Handžić, 2005). After the remarkable success of Japanese products in the world market, Western companies become very interested in their concepts. Therefore, as early as the 1980s, manufacturing companies focused on improving quality to achieve competitiveness and to generate greater profits. Companies started seeking alternative ways of empowering and enabling organizational learning, which can result in employees quickly
contributing to decision-making processes in the company (Love, Li, Irani & Faniran, 2000). As a result of intense global competition, the idea of total quality management (TQM) was created; TQM principles, methods, tools and techniques have been given extensive attention by international trade and global organizations (Zakuan, 2010). Programs such as TQM have become a key point of strategic management to conduct business operations (Starčević, Mijoč & Vrdoljak, 2012). Striving for quality products and business processes is the main characteristic of total quality management.

Total quality management can be defined as the process of integrating all activities, functions, and processes within an organization with the aim of achieving continuous improvement in cost, quality, function, and delivery of products and services to achieve customer satisfaction (Starčević, Mijoč & Vrdoljak, 2012). TQM represents the most general concept of quality management that takes into accounts the requirements and interests of all stakeholders of the organization (customers, employee’s shareholders, suppliers, society). In recent decades, quality theorists Deming, Juran, Crosby, Feigenbaum and Ishikawa, original authors of TQM, have developed several theories, which have gained a lot of acceptance in the world (Vuković, Pavletić & Ikonić, 2007). Their considerations ensure understanding the philosophy and principles of TQM. TQM in its structure is a multi-conceptual discipline that integrates the new concept of quality and modern management (Handzić, 2005). The other concept that many authors claim important for organizational performance is organizational learning. The idea of an organization learning emerged just over two decades ago, and it is considered as one of the modern concepts for managing an organization’s management issues in terms of gaining and maintaining competitive advantage. The business environment requires organizations to be innovative and unique and therefore becomes an important learning process by which organizations are coming up with new knowledge and generate valuable innovations. According to Gabelica (2018), the goal of introducing organizational learning is an adaptation to the environment, a constant increase in the organizational capacity for change, that is for learning, the development of the individual as well as collective learning, and the use of learning outcomes to operate more efficiently and effectively (Rupčić, 2002). A learning company creates competitive advantages by increasing knowledge, i.e. intellectual capital. The concept of organizational learning is intended to emphasize primarily the organization made up of people, not rules, norms and procedures because the organization learns through its members. In every organization, learning takes place simultaneously at multiple levels so that we distinguish between learning at the individual, group and finally the organization as a whole. It is extremely important to understand that learning is an ongoing process, not a one-time event that can happen overnight.

According to Zakuan (2010) adopting certain quality management practices can help companies achieve a competitive advantage in both domestic and international markets. Some of the greatest worldwide companies, such as IBM, General Motors, Motorola, Xerox, have been benefited from the effective implementation of total quality management. Their products are synonymous of quality and durability. High market shares brought them to power in the market, resulting in high product prices. It is widely known that the products of multinational companies are produced at the lowest costs, and these products are made from the latest technology. Therefore, many authors who studied the concept of TQM, advocate the idea that this strategy should become a fundamental concept of any organization, and thus the national economy, as well. This concept refers to the continuous improvement approach that involves all actors in the organization, both managers and workers and partners. This concept starts from the fact that any organization that wants to achieve sustainable success, must do everything to meet the demands of customers/users and other stakeholders, namely: owners, community, partners, and employees. Proponents of TQM claim that the introduction of such practices into the enterprise leads, due to higher product quality, to customer satisfaction. Also, due to the higher quality of the processes, these practices lead to fewer mistakes, causing greater productivity, and leads to
higher profitability due to the lower costs. They claim that managers can implement TQM in any business, whether in manufacturing, service companies, non-profits, or government organizations.

In recent years, the Bosnian economy is experiencing a slight increase, and the companies that make up the Bosnian economy are mostly small and medium-sized enterprises. The most responsible for this growth in the economy of Bosnia and Herzegovina (B&H) is the IT sector. The rapid development of the IT sector, especially the software and internet industries, is based on some specificities that are not comparable to other industries. As a result, the validity of the traditional economic processes and rules has been re-examined, both at the microeconomic and macroeconomic levels. In order to attract investment capital, IT managers, therefore, need to define a clear model for their management, and this applies in particular to effective management factors of profitability (Rupčić & Kurjaković, 2014). IT industry is among the most innovative and competitive industries in the world. This implies also to B&H, as the most growing industry in the Bosnian market from 2016 and onwards is the IT industry. The software industry is of strategic importance for the development of the B&H independently, but also as a driving industry for the development of other industries. IT companies positively contribute to the development of Bosnian exports and the economy as a whole.

Given the significant contribution of the IT sector to local economies, it is crucial to study and evaluate its performance including the discussion, investigation, and review of factors relating to the positive performance of software companies. In order to meet customer requirements and enjoy the positive performance, IT companies in B&H are working hard to adapt total quality management in their operations; which could help them to deliver high quality and low-cost services in the local and international markets. The main focus of Bosnian IT companies is the international market and therefore these companies, comparing to companies in other industries in B&H, need to provide extraordinary levels of performance. Industry leaders are successful for a reason because they clearly convey a vision through every aspect of the company. They recognized quality as a strategic advantage over the competition and developed systems where quality is a priority with a very high standard. No study has been conducted to explore the significant association between total quality management practices, organizational learning and company performances in Bosnian IT firms. Accordingly, the subject of research in this thesis is to identify and analyze the nature of the relationship between quality management practices, organization learning and organizational performance and how organizational learning moderates the relationship of quality management practices and organizational performance in IT companies. A deeper understanding of these interrelationships will contribute to the IT industry’s theory and practice and also provide more insight into the impact of TQM and organizational learning on the performance of IT companies. The research will be conducted with the help of a questionnaire, which will examine selected sample companies. By answering questions, which are set in several separate segments, the respondents will contribute to establishing the existence of links between TQM, organizational learning and performance in organizations.

2. Literature review

Since this research has unified several concepts, it is necessary to understand what their main ideas are based on. Concepts such as TQM, organizational learning and organizational performance have been studied and discussed in many research papers. Summaries of these studies are presented on the following pages.
2.1 Definitions and concept evolution

2.1.1 Total quality management (TQM)

There has been a change in opinion in the last two decades that quality management does not only mean alignment with the given standards and criteria; quality also includes meeting the customer’s needs and desires, and even exceeding them. Total quality management is quality management which includes orientation towards continuous improvement of the quality along with the lowest cost, education, and motivation of employees who work on ensuring quality that will meet customer expectations. Total quality management is management that requires the participation of all employees at all organizational levels. The main goal of total quality management (TQM) is improving quality beyond customer expectations and constantly striving for improvement. TQM was popularized by quality guru William Edwards Deming, who describes the organization as interconnecting systems that are designed to meet the needs of the consumer; in these systems, processes and activities are connected to each other and work with each other (Rawashdeh, 2018). His theory and teachings start from the fact that quality improvement is not a technique but an extremely well thought out philosophy whose essence is the cooperation of employees and their constant learning, in order to facilitate the adoption of business practices and theories that further enhance the business as a whole (Tomac, 2017). Deming advocates that management needs to be criticized and understand the need for change while embracing new knowledge and seeking to apply it. Therefore, Deming proposes the so-called Shewhart cycle i.e. Plan-do-check-act (PDSA) which is described in Figure 1 (Tomac, 2017).

![Plan-Do-Check-Act](image)

**Figure 1. The Deming Plan, Do, Check, Action (PDCA) cycle**

*Source: Patel & Deshpande, (2017)*

Plan-Do-Check-Act is a way of managing where each project or procedure is planned according to needs and outcomes. These steps are constantly repeated, but always on a new, higher level of quality in order to achieve continuous improvement. The essence of this approach is that errors, defects, and poor-quality materials are unacceptable, and that should be eliminated. After testing the efficiency and effectiveness, corrective action is taken to address the problem in the process.

Total quality management practices were firstly used by Japanese managers in the 1980s, to enhance the overall quality and performance in order to meet customer needs and expectations and enjoying long-term success (Zakuan, 2010). However, according to Zakuan, (2010), these practices have become more popular during 1990 in the US, Europe, and later followed by the developing countries. Different authors have suggested different constructs of TQM, therefore Zakuan et al. (2010), have analyzed a list of constructs proposed in a large set of articles through comparison of quality management practices across different studies and proposed set of eight constructs: quality leadership; customer focus and satisfaction; quality
information and analysis; human resource development; strategic planning management; supplier quality management; quality results; and quality assurance.

Total quality management has ten basic principles: Align with customer needs; Understand and improve the chain: subcontractor, supplier, and customer; Doing the “right” things; Doing things “right” from the first time; Measure improvements; Continually improve; Manage; Train; Improve communication (communicate effectively); and Give recognition for “moving forward” (Handžić, 2005). The primary goal of an approach based on quality management is output without any errors. In order to prevent possible errors, an active (modern) approach to quality control is implemented at all stages of the transformation process.

The process of implementation of a total quality management system is not an easy one. It is a comprehensive process that involves all processes in the company, requires the attention and dedication of every employee and most importantly, the commitment and perseverance of management in implementing such a system. Every consumer is important and everyone in the organization must have an equal attitude and improve its performance to equalize consumer expectations in terms of product and service (Bakotić, 2012).

2.1.2 Organizational learning

The modern era is characterized by the strong development of information, capital, products, services, but also by people with a tendency to erase national borders. Globalization is seen as a world without borders, and the development of the Internet and advanced communications technology allows virtual access, immediate access to information and involvement in business processes that take place in all parts of the world (Gabela, 2018). Organizational learning today is a concept that seeks to increase intellectual capital and thus increase productivity and profit because knowledge in modern business is a major and lasting source of competitive advantage (Rupčić, 2002). Although there is not certain how long this concept will be “trendy”, it is undeniable that every company has to learn and adjust to changes in order to survive. After the period of agricultural and industrial society, modern society according to the dominant activity of people can be called information. It is the kind of society in which members of the society are fully and timely informed of all events and issues they encounter. The foundation of the information society is that information as a resource has some specific characteristics in relation to other resources; information is inexhaustible as a resource, consuming it does not destroy its content, does not diminish its value during use, and its usable value increases (Rupčić, 2002).

Business management requires a constant flow of information; in day-to-day business, employees are confronted with data and information. According to Rupčić, the company adopts new knowledge only when the discoveries and insights of individuals inculcate in organizational theory, organizational culture and normative value the system that shapes just “thinking and behavior” companies.

2.1.3 Organizational performance

The two key points of every organization’s management are organizational performance and organizational excellence. Performance measurement was originally widely used in HRM theory and practice and focused on individual performance. However, today performance measurement extends across all areas of work from the individual to the overall organizational level. Performance measurement at the organizational level has become particularly important for several reasons related to: growing competition, initiatives for all-round improvements, national and international quality awards, organizational change, state regulation and deregulation, the
power of information technology, etc. In the last many decades, both scholars and practitioners have been concerned about organizational success as the final outcome of the use of tangible and intangible assets (Al-Dhaafri, Yusoff & Al-Swidi, 2013).

Since the organizational success is seen as one of the most critical strategic management constructs, many studies have been conducted in order to understand organizational performance and its processes, antecedents, and other factors that can improve organizational success (Al-Dhaafri, Yusoff & Al-Swidi, 2013). Organizational performance can be seen and measured on the basis of the relation between different performance variables. According to Bakotić (2012) analyzing modern systems for measuring organizational performance, it is possible to observe some of their common features relating to the inclusion of financial and non-financial criteria, internal and external measurements, the criteria of effectiveness and efficiency.

Determining organizational performance is basically determining the success of a business. Different groups such as employees, customers, suppliers, shareholders, government, media, consultants, scientists have different perceptions of organizational performance. The goal of every performance measurement, especially organizational one, is to improve them.

2.2 Total quality management practices and organizational performance

The relationship between TQM and performance has been studied in many research papers using different performance measures such as quality performance, financial measures, employees’ satisfaction and operational performance which gave us inconsistent findings (Jimoh, Oyewobi, Isa & Waziri, 2018). Jimoh and et al. (2018) also reflected upon the work of Sadikoglu and Olcay where they mention that the inconsistent results can be obtained to either different approaches, diverse TQM variables, or different performance measures employed in their study model; or maybe because some of the findings are country- or industry-specific. Therefore, Jimoh and et al. research was based on mixed-methods methodology. These authors showed that both TQM practices and strategies for continuous improvement were significant determinants of organization performance (production, employee, financial and customer-related performance). They argue that the application of TQM is vital for all construction organizations “survival in the hypercompetitive construction business environment”. Additionally, Jimoh and et al. conclude in the article that due to the fact that the organization’s management commitment and continuous improvement being positive and strongly related, managers must understand that implementation of TQM will allow companies to achieve superior organizational efficiency in a certain setting and at a certain time.

According to the study conducted by Starčević, Mijoč and Vrdoljak (2012), the total quality management (TQM) is increasingly getting implemented in today’s enterprises. The authors claim that opportunities to maximize the benefits of implementation lie in systematic implementation in accordance with the fundamental principles outlined in the paper. The finding of their study shows that the companies that recorded a higher level of application of total quality management principles are financially more successful than companies that recorded a lower level of application. They discussed that the management support and employee involvement in implementation, the commitment to company to improve products and processes, achieving and maintaining customer satisfaction are just some of the factors required to successfully implement and achieve positive effects from implementation of total quality management.

On the basis of reviewed and presented literature, the hypothesis 1 of this study will be formed, as follows:

H1: Quality management practices are positively correlated with organizational performance in Bosnian IT companies.
2.3 Organization learning and organizational performance

The relationship between organization learning and organizational performance is well explained in the study conducted by Love, Li, Irani and Faniran, (2000). In order to facilitate change deliberately and proactively, these authors suggest that the TQM approach should be used as a mechanism for organizations to establish a truly integrated, even synergistic view of the knowledge, experience, and goals of all individuals within the organization. In their opinion, processes and structures must be in place to help people create new knowledge so that they would be able to continually improve themselves and the organization as well. Love, Li, Iran & Fanira have developed a model that recognizes TQM and organizational learning as key components to be adopted by organizations in order to become a learning organization and a leader in the established industry. Love et al. conclude in the article if construction organizations want to become resilient and environmentally sensitive, then they need to reconsider their performance strategies so that learning can become an institutional standard. In addition, this may allow organizations to review their approaches to organizational sustainability, design of strategies and organizational change.

The finding of a positive and significant relationship between TQM practices and organizational performance, which also replicates the previous studies, is discussed in the study of Mahmood, Qadeer & Ahmad, (2015). According to their article, the explanatory variable in the above results is TQM practices. Mahmood, Qadeer and Ahmad have concluded that because of its focus on productivity and quality, the relationship between organizational learning ability and performance is a relatively recent phenomenon and has great importance in the manufacturing sector. As predicted, the finding is that learning capacity improves employees’ ability to solve problems and encourages active decision-making in a business which eventually accumulates into organizational efficiency.

On the basis of reviewed and presented literature, hypothesis 2 of this study will be formed, as follows:

H2: Organizational learning is positively correlated with organizational performance in Bosnian IT companies.

2.4 Organization learning as a mediator between TQM and organizational performance

Sisnuhadi and Jamal (2013) have studied the relationships between quality management (QM) practices (infrastructure practices and core practices), organizational learning, and organizational performance in Indonesia’s and Malaysia’s ISO 9000 registered manufacturing companies. They have found that the higher levels of infrastructure practices lead to higher levels of core practices and organizational learning and that organizational learning has a positive influence on organizational performance. Though the study has not shown that the core practices mediate the relationship between infrastructure practices and organizational learning, findings suggested that organizational learning mediates the relationship between infrastructure practices and organizational performance. Sisnuhadi and Jamal (2013) have concluded in their study that in order to maximize the learning process, it is necessary to implement on all aspects of quality management including both, the “soft” or behavioral aspects and the “hard” aspects of QM practices. The results of this study indicate that organizations should encourage organizational learning in order to boost their competitive advantage.

On the basis of reviewed and presented literature, hypothesis 3 of this study will be formed, as follows:
H3: Quality management practices are positively correlated with organizational learning in Bosnian IT companies.

Among the main objectives of the study done by Mahmud and Hilmi (2014) was also a positive impact of organizational learning capability in enhancing the success of TQM practices and having a positive impact on organizational performance. The writers take examples of the study conducted by Martinez-Costa & Jimenez-Jimenez (2009), where they found that organization learning measured by knowledge acquisition, information distribution, information interpretation, and organizational memory mediated the relationship between TQM and organizational performance.

Researchers Mahmood, Qadeer and Ahmad have also studied the impact of Organizational Learning Capability as a Mediator in understanding the relationship between TQM and organization performance. They found that organizational learning capability fully mediates the relationship between TQM practices and organizational performance. However, Mahmood, Qadeer and Ahmad suggested that other mediating mechanisms should not be out of the question in linking TQM with performance. They have come to the conclusion that organizations should form the strategies for implementation of learning capability along with TQM practices in order to enhance their performance and the top management can achieve outstanding efficiency by using their learning skill tools in tandem with TQM activities (Mahmood, Qadeer & Ahmad, 2015).

On the basis of reviewed and presented literature, hypothesis 4 of this study will be formed, as follows:

H4: Organizational learning mediates the positive association of quality management practices and organizational performance.

3. Hypotheses and research model

Many studies indicate a connection between total quality management, organizational learning and the organizational output in each of its forms. It was suggested that adopting the TQM procedures together with organizational learning would enhance business efficiency. This study has two main goals: (1) to determine the interrelationships between quality management practices, organizational learning, and organizational performance, and (2) to determine if organizational learning fosters organizational performance and plays a mediating role between quality management practices and organizational performance in IT Sector of B&H. The following hypothesis will be used and tested to explain the relationship of each TQM activity regarding organizational success in the IT industry of B&H. After reviewing the literature, we will examine four previously listed hypotheses through this study:

H1: Quality management practices are positively correlated with organizational performance in Bosnian IT companies.

H2: Organizational learning is positively correlated with organizational performance in Bosnian IT companies.

H3: Quality management practices are positively correlated with organizational learning in Bosnian IT companies.

H4: Organizational learning mediates the positive association of quality management practices and organizational performance.

We have presented our research model based on the literature review in the figure below.
4. Methodology

In this study, a qualitative research method will be applied using data retrieved from the survey questionnaire. We will target IT companies located in the Federation of Bosnia and Herzegovina; there are 55 IT firms that are a member of Bit Alliance in B&H. We will use a random sampling method to increase the precision in TQM, OL and OP research and reduce the sample variation and error.

A self-administered survey questionnaire compiled of previously validated scales will be used for the collection of data from the research sample. These survey questionnaires will be conducted via an online platform. Furthermore, we will use statistical methods for social science to analyze the characteristics of total quality management practices and learning in organizations and the relationship between them, which will be shown by tables and charts. The statistical program SPSS (Statistical Package for the Social Science) will be used in the data processing.

5. Conclusion

Over the past few years, the role of TQM and organizational learning has been well established and acknowledged as a key factor for organizational performance. Previous research reported that total quality management and organizational learning had a positive and important impact on the success of organizations. This study primarily focused on the implementation of TQM and organizational learning in IT companies in B&H and its impact on organizational performance. While previous studies were conducted to identify successful implementation of TQM practices in combination with Organizational Learning, it was found that no studies had attempted to investigate the relationship between TQM practices, organizational learning and organizational performance of IT companies in Balkan countries. It’s expected that the most significant implication of this study would be that IT companies should pay more attention to total quality management practices, as these can support both knowledge management practices and organizational performance. The key restriction of this research is that the study asked for assumed data on current TQM activities and performance metrics, but the respondents might give the desirable data that will make their organizations sound better than actually it is. This study will serve as a basis for further research on the topic of the effects of quality management practices.
and organizational learning on organizational performance in IT companies in B&H. Additionally, it will include suggestions for improving organizational performance using TQM and organizational learning. Future research may investigate those TQM practices, organizational learning and performance measures in other Bosnian industries.

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