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Implementing Total Quality management practices and Employee Performance: Sanita - Lebanon

**RushdiZaiter¹, Rabih El Kabbout², Mahmoud Koabaz³, Ahmad Skaiky⁴,
Mohamad Zalghout¹, Ali Msheik⁵**

¹Business Faculty, AUCE University, Beirut, Lebanon, ²DBA Candidate, Faculty of Business administration, Beirut Arab University, Lebanon, ³ICCS Lab, Computer science department, AUCE University, Beirut, Lebanon, ⁴AUL University, computer science department, Beirut, Lebanon, ⁵Faculty of agronomy, Lebanese university, Beirut, Lebanon

rushdizaiter@auce.edu.lb

Abstract. The aim of the study is find out the impact of applying different total quality management (TQM) practices on the performance of employees in the Lebanese industrial sector. The implementation of total quality management in Lebanese companies is very narrow where few companies work to apply Total Quality Management elements and concepts in its operations. Sanita is a Lebanese company that has applied the principles of total quality management relatively in all of its operations, so it has a large share of its products in the Lebanese market. In this quantitative survey designed study, 160 self-administered questionnaires were distributed for employees working at different career level (Top level management / Middle level management / Supervisor / Operator /technician / other workers) in Sanita main branch (Halat -Lebanon) and Sanita factory (Zouk Mosbeh -Lebanon). The survey concluded various questions related to the dependent variable employee performance and the independent variable related to practices of total quality management (leadership, teamwork, training and education, empowerment, communication). Using the quantitative correlation Pearson test, a strong influence emerged for the implementation of TQM principles on the performance of employees at Sanita and its factories; thus accepting the main alternative hypothesis.

Keywords. Total Quality Management, Employee performance, empowerment, Team work, Leadership, Communication

1. Introduction

Total Quality Management considered being one of the most long-lasting management innovations in the recent decades. It must be accomplished by management and employees in all company's activities (Hashmi, 2004). Total Quality Management is a management philosophy embracing all activities through which the needs and expectations of the customer and the community and the objectives of the organization are satisfied in the most efficient and cost effective way. This is approached by maximizing the potential of all employees in a continuing drive for improvement. This research focuses on the TQM approach in the Lebanese manufacturing industry at all functional level of an organization. Pradhan & Jena (2017) stated

that within the context of TQM implementation, there is increasing recognition of the significant role of employees in achieving the success (According to different resources, there are more than ten basic elements related to TQM. There are five basic elements of TQM that are related to employee performance: leadership, communication, teamwork, training and education, employee empowerment (Wei, Chang, Zhang, Wu & Tang, 2019). In this study, the Total Quality Management (TQM) that applied in manufacturing industry is studied theoretically through a case study of the Sanita in the manufacturing industry.

2. Literature review

TQM is recognized as a strategy that considered customers as the main concern, in which it directly aims to provide them with a high quality services and products through adding continuous improvements in the production processes (Sadikoglu & Olcay, 2014).). An extensive review of the literature identifies more than thirty main practices that can be implemented in an organization as a part of the adopting the TQM philosophy (Fotopoulos & Psomas, 2009). Although there many studies and books about these practices, there is no universal practices that can be considered as major principles to be applied in different industries and cultures (Gözükara, Çolakoğlu & Şimşek, 2019). These practices, moreover, could be different when directed toward specific stakeholders or operations. For instance, continuous improvement is directed toward the organizational processes (Saumyaranjan, 2018), whereas, training and development is more directed toward the employees and enhancing their performance (Sunyoung, Hye-Seung & Eun-Jee, 2018). This direction doesn't intent to classify these practices, keeping in mind that the TQM is interacted chain of functions and practices that lead overall organizational performance in terms of quality at different levels and areas (Fotopoulos & Psomas, 2009).

As to employees, literature identified five major TQM practices that are directed toward the employee' to improve their performance (Njero & Omondi, 2016). These include leadership, training and development, teamwork, empowerment and involvement, and communication (Fig.1). No doubt that the influence of these practices on the employees' performance differs in terms of the relationship. Hence, some of the practices may directly impact the performance indicators like technical and cognitive capabilities of the employee; whereas, other may target the employee's internal commitment and satisfaction; thus, leading to the enhance performance in an indirect way.

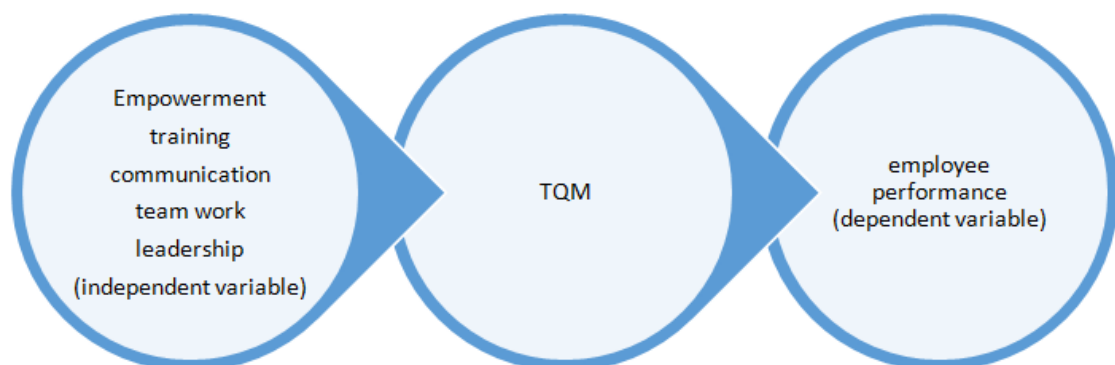


Figure 1. Relationship between TQM and employee performance

The success of an organization is reliant on the **leader's** ability to optimize human resources. A good leader understands the importance of employees in achieving the goals of the organization, and that motivating the employees is of paramount importance in achieving these goals. Leadership has a great role in the quality management since it forms a basic building in a strategy seeking improvement within the organization. Leaders are the main providers for the unity of purpose and those who establish the unity of direction for the organization. To be able to do so, the leaders have different responsibilities related to the creating a good quality culture and maintaining the tone within the organizational internal environment. Moreover, leaders are more capable to set smart objectives and have the required emotional bonds with the followers to motivate and direct them toward achieving these goals. As a result, having good leadership is supposed to effectively impact the employees' performance within the organization leading to a better overall organizational performance (Gözükara et. al, 2019). Different studies have showed a positive direct relationship between organizational leadership and employee's performance related to different dimensions of such performance including creativity, innovation, and motivation.

People are a fundamental building block in any organization adopting a Total Quality Management approach. According to research, the center point of quality responsibility and achievement lies in the employee's capability to do the job and run the process in the right way. However, the process within the workplace can't be held by one individual; thus **teamwork** would be the efficient approach to tackle the process quality and continuous improvement (Peris-Ortiz & Álvarez-García, 2014).

No doubt that working in teams has different advantages for the employee, the work itself, and the whole organizational process. For instance, on the individual level, working in teams will expose the individual into different experiences and other point of views' thus, enhancing the employee mental and practical capabilities which in turn improves the employees overall job performance. On the job level, working in teams gives the opportunity to boost the workplace moral and commitment level though different means. These include crossing the boundaries across different departmental and functional level causing a leniency in the flow of work within the different structural level of the organization. On the organizational level, a teamwork embedded and supported in the overall organizational strategy will effectively leads to better achieve the organizational common goals though enhancing better communications, trust building, and creating a better

Another main component for adopting a total quality management approach is training and education. Training and education is an essential element of total quality management since the key factor of quality is the employee's capability and understanding of quality (Sunyoung, Hye-Seung & Eun-Jee, 2018). Although creating and training and education seems to be a costly and time consuming process; however, no quality environment can be reached without having a well-trained and educated people. A main concern for having a good training and education quality workplace environment is the capability of the management to analyze the training needs and customize an efficient training and education programs for their people (Halawi & Hayda, 2018). In such a way, the training will be oriented toward the organizational total quality goals and not done for the sake of training only. Moreover, the training and education shall be linked to the overall organizational strategy including the mission, vision, and goals.

Human capital, as discussed above, is the key factor in creating total quality environment. So, for adopting such quality approach and linked to other TQM elements, employee empowerment and involvement is another essential element in total quality management. Quality requirement can be built upon but it is built in; thus, quality comes from within the employees' satisfaction and commitment to the job (Friedman & Westring, 2015).

To motivate and encourage this commitment to quality, employees must be engaged to contribute their inputs and become part of the decision making process (Fatimah, Moelyati, & Syailendra, 2016). On the other side, employee engagement and empowerment help the organizations by creating a pool of creative and innovative ideas which in turn make the difference in building the organizational competitive advantage (Bakotić & Rogošić, 2017). When linked to other elements of TQM, employee empowerment and engagement boost teamwork and education among employees (Gözükara, Çolakoğlu & Şimşek, 2019).

The last TQM element considered in this study is communication. Effective communication is vital element in adopting a TQM philosophy and it comes on the top of other TQM elements since it constitute the major backbone for implementing these elements. Different TQM gurus have emphasized the different types of communication intra and inter-organizational. Moreover, different research has shown a positive relationship between effective communication and improvement in employees' performance, organizational process, and organizational culture. This relationship is due to the motivation that good communication between employees and their management gives to them (Zahari & Zakuan, 2016). Further, communication may remove different obstacles and aids in enhancement of good relationships between people. As stated above, even on quality level with the stakeholders, which is a main objective when implementing TQM philosophy, communication is very essential element in creating this network of relationships especially with customers, partners, and the external environment as a whole.

Sanita

Since its establishment in 1972, Sanita has become a household name related to quality and good relationships with all its stakeholders. Sanita offers a variety of products including different hygienic paper products and related cleaning products in Lebanon, Middle East, African and Europe. Sanita work on implementing different TQM practices including the five main practices related for employee, discussed in the literature. For instance, teams at Sanita work to gain trust and customer satisfaction through commitment to the highest product quality and consistency standards. Moreover, the marketing and research& development (R&D) department, at Sanita, work to satisfy the growing market needs and develop innovative products of international standards. Sanita is ISO 9001 certified and its policy is reviewed yearly to continually meet our quality objectives.

3. The Problem

Many studies over the world researched the importance of TQM and its positive effect on employee performance but in Lebanon no studies focused on this topic widely (TQM on industrial companies). According to association of Lebanese industrial list, in Lebanon about 6000 small and medium manufacturing companies have worked in industrial field. Many of the recognized companies have adopted the TQM practices as part of its continuous improvement process to provide top quality products and to abide legally to the new governmental laws and policies concerning being ISO certified. Research literature in the Lebanese industry have considered the topic of TQM in different areas like education, banking, food services and communications sectors; however, there is a lack in literature in studies that shed the lights on the industrial sectors.

4. Methodology

The study is a primary research depending on quantitative data. According to dependent variable employee performance and five independent variables consists of main practices of

TQM related to employee (leadership, communication, teamwork, empowerment, training and education). A cross sectional study done at one point of time during March 2020.

The collection tool used in this quantitative research was a self-administered questionnaire. Based on TQM main practices related to employees performance, the researchers developed a questionnaire consisting of thirty one questions from many previous studies. These questions covered demographic variables and the different TQM practices in Likert-scale statements.

The human resources manager at Sanita Company allowed that the number of the target group of employees in the main branch and the factory not exceeding 160 employees from a total of 420, knowing the calculated sample size at the 95% confidence level is 0.05, employees due to the current conditions (COVID-19). Convenient sampling was used. The respondents (The person who answers on interviewer's questions or the person who provides answers to written questions in self-administered surveys) worked in Sanita Company located in Halat Byblos branch and Sanita manufacturer located in Zouk Mosbeh. The study applied a suitable statistical means to analyze the collected data using statistical package for the social sciences (SPSS).

5. Theoretical Framework

Based on the above literature review, a conceptual framework is developed and a research model has been proposed to explore the impact of identified TQM practices and employees' performance. The proposed research framework is depicted in Fig.2. This research adopted the five main TQM practices related to the human resources. In this conceptual research framework TQM practices act as independent variable, and employee performance as dependent variable respectively. The main objective of the study is to understand the impact of implementing the TQM practices on employees' performance from the employees' point of view. Although there more practices of for TQM related to the top management, suppliers, and customers; this study adopted only these related to the human resources within the organization. Further, the study conducted at all the employees at different levels of the organization; thus, those TQM practices related to managerial levels, only, where also neglected. As a result of this framework, one major alternative hypothesis and five sub-hypotheses were deduced from the studies in literature.

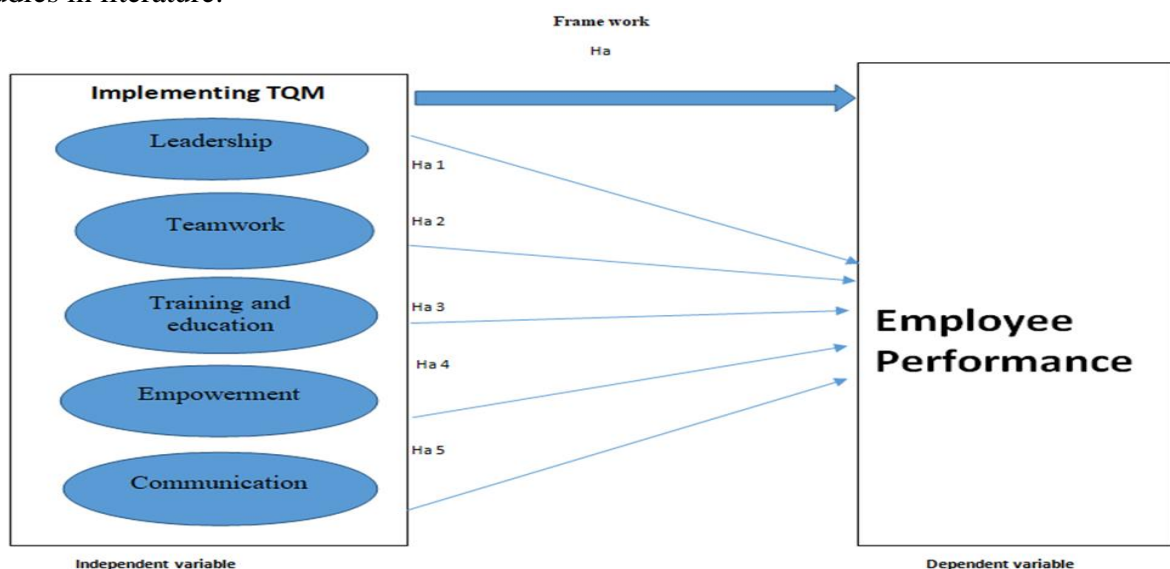


Figure 2: Theoretical Framework

6. Results

In the first set of Likert scale statements, the questionnaire asked six questions about performance assessing how Sanita work on enhancing and developing the performance of their employees. The questions involved different factors related to performance including skills, competencies, and usage of technology. The result showed that 76% of the employees choose between agree (34%) and strongly agree (42%), while 15% are neutral and 8% disagree (Table.1). Therefore, Sanita is working to develop the performance of its employees by developing employee skills and the use of technology, as it identify weaknesses and strengths, in addition to the positive relationship between Sanita and stakeholders about 61%. The result is positive, that mean most of the employees have their answer centered on that Sanita is constantly working to improve the performance and quality of employees, and raise employee productivity.

Performance	SA	A	N	D	SD	N	Mean
Frequencies	66	54	24	15	1	160	4.061
Percentages	42%	34%	15%	8%	1%		

Table 1: Results for Performance

For the leadership variable, the questionnaire asked four questions to assess management leadership activities, commitment toward strategic objectives and their support to employees. The results showed that 73.75% of the participants choose between strongly agree (27.35%) and agree (46.4%), while (16.7%) neutral and (9.07%) disagree (Table 2). Therefore top management have the ability to clarify the mission and business objectives to employees, and support employees to develop, also takes care of employee well-being (e.g. welfare, health and safety provision).The average mean is 3.83, which is Agree.

Leadership	SA	A	N	D	SD	N	Mean
Frequencies	43	74	27	15	1	160	3.83
Percentages	27.35%	46.4%	16.7%	9.07%	0.48 %		

Table 2: Results for Leadership

As for teamwork, questionnaire asked four questions related to evaluate the teamwork effectiveness at Sanita. Results showed that about 67.35% of the participants choose between strong agrees (29.85%), agree (37.5%), while 15% neutral and 17% disagree (Table 3). Consequently, the focus of the answers was on the clear role of each individual working within a team, as well as the support of employees to each other within the same team to alleviate the problems and accomplish the goals of the company. The average mean of the four questions was (3.79) which are agreed.

Leadership	SA	A	N	D	SD	N	Mean
Frequencies	43	74	27	15	1	160	3.83
Percentages	27.35%	46.4%	16.7%	9.07%	0.48 %		

Table 3: Results for Teamwork

For the variable training and education, participants were asked about the training and education programs and its aptness with the total quality concepts. Results showed that about 71% of the participants of the participants choose between strong agree (36%) and agree (35%), while neutral (23%), and disagree (6%) (Table.4). This result show Sanita continuous learning program is provided through education and training, and company concentrates on ongoing development of personnel by establishing extensive training programs that covers all aspects of TQM. The average mean for the set of questions was 4.02, which is agreed.

Training and education	SA	A	N	D	SD	N	Mean
Frequencies	58	56	37	9	0	160	4.02
Percentages	36%	35%	23%	6%	0 %		

Table 4: Results for Training and Education

For empowerment, questions assessed the employee's capability to take decisions, correct problems, and be creative when it comes to quality work. Results showed that about 67.22% of the participants choose between strongly agree (35.65%) and agree (31.57%), while neutral (19.55 %) and disagree (13.27 %) (Table5). The answers showed that Sanita impose employee empowerment, where managers delegate authority the responsibility to increase employees' productivity. The average mean was 3.89, which is agreed.

Empowerment	SA	A	N	D	SD	N	Mean
Frequencies	57	50	32	21	0	160	3.89
Percentages	35.65%	31.57%	19.55 %	13.27%	0 %		

Table 5:Results for Empowerment

As for communication, the questions evaluated the whole communication process across and within department, employee-managers communications, and team communication. The result showed that about 67.22% of the participants choose between strongly agrees (31.9%), agree (32.85%), while neutral (14.85%) and disagree (20.3%) (Table 6). The employees are satisfied to discuss work issues with the manager, in addition to the clarity of the way to communicate, to solve any problem between individuals within the departments. The average mean 3.765, which is agree.

Communication	SA	A	N	D	SD	N	Mean
Frequencies	51	53	24	32	0	160	3.765
Percentages	31.9%	32.85%	14.85%	20.3%	0 %		

Table 6: Results for Communication

7. Hypotheses Results:

As discussed in the theoretical framework, the study hypothesized one main hypothesis: Is there a statistical significant impact for implementing TQM principles on the employees'

performance at Sanita. Further, the framework deduced five sub-hypothesis related to the impact of each of the TQM principles on the employees' performance. The hypotheses were tested using Pearson correlation (r^2) at significance level $\infty \leq 0.05$. Results of the correlation are represented in Table. 7.

		Performance
Leadership	Pearson Correlation	.663**
	Sig. (2-tailed)	.002
	N	160
Teamwork	Pearson Correlation	.788**
	Sig. (2-tailed)	.002
	N	160
Training	Pearson Correlation	.879**
	Sig. (2-tailed)	.001
	N	160
Empowerment	Pearson Correlation	.877**
	Sig. (2-tailed)	.001
	N	160
Communication	Pearson Correlation	.762**
	Sig. (2-tailed)	.001
	N	160
Total quality management	Pearson Correlation	.858**
	Sig. (2-tailed)	.001
	N	160

** Significant at 0.01

Table7: Correlation Results for Variables

- **Ha1:** There is a moderate statistical positive impact for Leadership practices on employees' performance, the correlation is ($r^2=0.663$), which is $0.3 < 0.663 > 0.7$, at $\infty \leq 0.05$.
- **Ha2:** There is a strong positive statistical impact for teamwork practices on employees' performance, the correlation is ($r^2=0.788$), which is $0.75 < 0.788 > 0.1$, at $\infty \leq 0.05$.
- **Ha3:** There is a strong positive impact for training and education practices on employees' performance, the correlation is ($r^2=0.879$), which is $0.75 < 0.879 > 0.1$ at $\infty \leq 0.05$.
- **Ha4:** There is a strong positive impact for empowerment practices on employees' performance, the correlation is ($r^2=0.877$), which is $0.75 < 0.879 > 0.1$, at $\infty \leq 0.05$.
- **Ha5:** There is a strong positive impact for communication practices on employees' performance, the correlation is ($r^2=0.877$), which is $0.75 < 0.879 > 0.1$, at $\infty \leq 0.05$.
- **Ha:** There is a strong positive statistical significant impact for implementing total quality management practices (Leadership/ teamwork/ training and education/ empowerment/ communication) on employees' performance at Sanita, $r^2= 0.858$, $0.75 < 0.858 > 0.1$, at $\infty \leq 0.05$.

8. Discussion of Results

The result of this study showed a very critical consideration for the impact implementing TQM practices on the employees' performance at Sanita. When comparing the total average means for each set of questions related to the different TQM principles, it shows that most of the means were showing an agreement level with the statements. However, these means were

all in the range of 3.76-4.02 with communication having the least average mean (3.76) and training and education having the highest average mean (4.02). Thus, employees' are agreeing on the importance of training and education and implying the Sanita is adopting the concept of training and education for its employees. However, for communication, it seems that employees are not very satisfied with the communication type and process happening at Sanita. This has different explanations related to the type of power distance culture in Lebanon. The results of the average means are confirmed, for a certain instance, in the correlation tests. For instance, training and education has the strongest impact ($r^2=0.879$) on performance from the employee's points of view. However, Leadership comes last in its impact ($r^2=0.663$) and after it is the communication ($r^2=0.762$). This shows that there is an issue when it comes to the relationship between the employees and the upper management. As for the main hypothesis, the impact of implementing the TQM practices on the employees' is confirmed in a strong correlation.

Getting deep in the analysis of the questions and their responses, the responses showed some significant differences in terms of the level of agreement. In the leadership sections, the question related to the care of the management for the employees got the lower average mean of 3.30. This presents an issue related to the employees-management relationship. Although justified before as being related to the power distance culture, it may be a result of the structural formality found at Sanita and different Lebanese organizations. As for the training and development, the average mean of the whole set of questions come the higher with average mean of 4.02 and this shows that the organization is adopting this principle as an essential element of TQM concept implemented. However, the question on the ongoing personal developments gets the lowest average of 3.79. This present an issue in training where the training and development programs are done on the group and team level; but not individuals. Lastly, in the empowerment set of questions, the question related to capability of taking decisions (average mean 3.74) and the question of no need to getting approval (average mean 3.61) comes below the total average mean of 3.89. This also shows critical issues related to empowerment of employees and could be related to above presented reasons of cultural thinking and organizational structure in Lebanese organizations.

9. Conclusion

Most of the previous TQM models focused on the impact of TQM towards business performance only. Based on the previous study, there is still lack of study discussing the impact between TQM practices and employee performance. Most of the studies related the TQM practices with the organizational performance. The relationship between TQM and business performance in previous studies were found mixed (Sadikoglu and Zehir, 2010). The performance is measured in an overall view of the organization and less study is emphasizing the employee performance (Jun et al., 2006). Therefore, this study has filled the gap by emphasizing the employee performance only. This study has proven that TQM has significant and positive relationship towards employee performance.

Sanita implemented TQM to support its employee performance and increase customer satisfaction with high product quality and diversity. "What is good for the community is good for the company". Sanita plans, activities, efforts and culture are geared towards anticipating, meeting and satisfying their consumers' needs and stakeholders' expectations by implementing TQM practices and raise employee performance. The result from my study showed a strong positive impact between teamwork, training and education, empowerment, communication practices and employee performance in Sanita. Thus, Sanita is applying its principles and reaching the intended goals of enhancing their performance. However, the result of this study may have different limitations to consider including the questionnaire distribution procedure.

For instance, due to the epidemic health situation in Lebanon, the management at Sanita distributed the questionnaire to their employees; thus, the objectivity and reliability of the answers could be under doubt. Further, most of the average mean for the different principles lies in the neutral category, and this may be correlated with the reliability of the respondents and their tendency to be in the middle.

10. Recommendations

For Lebanese industrial companies, the study confirms the importance of applying total quality management with all its elements and concepts to human capital in the company. The application of total quality management increases performance among employees, which contributes to the continuation of the institution within the very competitive atmosphere in the markets. These facts are confirmed in Sanita Company which is applying total quality management concepts to contribute to the success and development of the organization. However, Sanita shall be more concerned about the principles related to the upper management including leadership and communication. These two principles are very important when any organizations seeks strategic sustainability which is a major goal related to implementation of TQM. Moreover, the element of Teamwork seems to be an issue that the management of Sanita shall consider to enhance its internal culture and dynamicity of work within the organization.

Managers have an important and significant role in applying Total Quality Management concepts by setting good and fair training programs for employees, and motivating employees because the implementing of Total Quality Management contributes to employee development and increases their loyalty and commitment in their work. Although managers are playing important roles in the training and development of their employees, as shown in the results, they need to work on the communication and their leadership capabilities related to their relationship with employees. On the other hand, for employees, the results of the study confirm the necessity of permanent learning, increase of experience and work in a team. These principles contribute to their success in their work and increase satisfaction with them

In this study, the application of the elements of total quality and their impact on employee performance have been presented; but there are many concepts of total quality and their implications have not been addressed in this study. The study included five main elements of TQM related to the human capital have been studied. Further studies within the industrial Lebanese organizations covering more TQM principles shall be done and on a further scale. In the recent period, Lebanese companies began to know the importance of applying the principles of total quality management; however, more research will strengthen this knowledge among Lebanese managers and employees as well.

References

- [1] Al Azemi Waleed, October 2012, total quality management within the construction industry of Kuwait, The role of Total Quality Management and its usage, Southborough university.
- [2] Aletaiby, A, Kulatunga, U and Pathirage, C, Key success factors of total quality management and employees performance in Iraqi oil industry, university of Sal ford, Manchester, 2017.
- [3] Ali Halawi & Nada Hayda, Effects of Training on Employee Performance: A Case Study of Bonjus and Khatib & Alami Companies, Vol. 5 No. 2; June 2018.
- [4] An empirical exploration of TQM, TPM and their integration from Indian manufacturing industry.

- [5] DanicaBakotić&AndrijanaRogošić (2017) Employee involvement as akey determinant of core quality management practices, *Total Quality Management &BusinessExcellence*, 28:11-12, 1209-1226, DOI: 10.1080/14783363.2015.1094369
- [6] EsinSadikoglu and HilalOlçay,The Effects of Total Quality Management Practices on Performance and the Reasons of and the Barriers to TQM Practices in Turkey,Volume 2014, Article ID 537605, 17 pages.
- [7] Fatimah Fatimah,TrisniartyAdjengMoelyati,SieraSyailendra,The Impact of Total Quality Management Practice on Employees' Satisfaction and Performance, *International Journal of Human Resource Studies*,2016, Vol. 6, No. 2.
- [8] Fotopoulos, Christos B; Psomas, Evangelos L. (2009). The impact of "soft" and "hard" TQM elements on quality management results *The International Journal of Quality & Reliability Management*; Bradford Vol. 26, Iss. 2:150-163. DOI:10.1108/02656710910928798
- [9] Friedman, S.D., Westring, A. Empowering individuals to integrate work and life: insights for management development.*Journal of Management Development*. 2015, Vol. 34 Issue 3, p299-315. 17p.
- [10] İzlemGözükara, NurdanÇolakoğlu&ÖmerFarukŞimşek. Development culture and TQM in Turkish healthcare: importance of employee empowerment and top management leadership, *Total Quality Management & Business Excellence*, 2019, 30:11-12, 1302-1318, DOI: 10.1080/14783363.2017.1366266
- [11] Jo-Ting Wei, Yeun Wen Chang, Xiaoxiang Zhang, Hsin-Hung Wu &YungTai Tang Performance measurement systems, TQM and multi-level firm performance: a person–organization fit perspective, *Total Quality Management & Business Excellence*, 2019, 30:15-16,1578-1595, DOI: 10.1080/14783363.2017.1384311
- [12] Maureen NyawiraNjeru, Mary Omondi.Relationship between total quality management and employee performance in public,May 12, 2016, *journal of management, the strategic business and change*, volume 3, issue 2, article 21.
- [13] MohdKhairulnizamZahari, NorhayatiZakuan,the effects of total quality management on the employee performance in Malaysian manufacturing industry, *Proceedings of Academics World 49 the International Conference, Istanbul, Turkey, 27th-28th October 2016*.
- [14] Rabindra Kumar Pradhan, LalatenduKesari Jena, *Employee Performance at Workplace: Conceptual Model and Empirical Validation*,2017 K.J. Somaiya Institute of Management Studies and Research SAGE Publications.
- [15] Sahoo, Saumyanranjan.*Journal of Manufacturing Technology Management*; Bradford Vol. 29, Iss. 7, 2018, 1188-1210. DOI:10.1108/JMTM-03-2018-0075
- [16] Sunyoung, P., Hye-Seung, K., &Eun-Jee, K. The role of supervisor support on employees' training and job performance: an empirical study.*European Journal of Training & Development*, 2018,Vol. 42 Issue 1/2, p57-74. 18p.
- [17] Title Action-Based Quality Management [electronic resource]: Strategy and Tools for Continuous Improvement / edited by Marta Peris-Ortiz, José Álvarez-García. Publication Info. Cham: Springer International Publishing: Imprint: Springer, 2014.