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The Relationship between Total Quality Management and Financial Performance: Evidence from Morocco

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ABSTRACT
The author attempts to explore the effect of TQM implementation on financial performance indicators evolution. A quantitative study was conducted on Moroccan companies listed on Casablanca Stock Exchange according to a methodological sorting connected to TQM implementation. The observation focused on the evolution of the turnover and the operating income before and after TQM. The objective observation of the results makes it possible to confirm that an effective TQM implementation positively impacts the development of companies' financial performance indicators. A very interesting path forward of the study concerns a situational determinant: the economic crisis to understand the variations observed over the defined periods of study. This study was undertaken methodologically independently from the aim to study a state of crisis. As such, the author suggests that an effective TQM implementation would allow companies to "immunize" themselves against the uncertainties of an unfavorable economic situation.

JEL: TQM, financial performance, Morocco, empirical verification, quality debate, methodology, objective observation
Key words: TQM, financial performance, Morocco, empirical verification, quality debate, methodology, objective observation

INTRODUCTION

In organizations' management field, once scientific researches come up with new management tools, techniques and practices, a general debate concerning them is open. It gives rise to many questions about the definition of those new methods, their conception within the organization and the change they would prompt in operations Belkasseh and Lemtaoui (2015). According to the authors, the ultimate goal for organizations to opt for a management configuration and not another should be analyzed. Many authors found it relevant to highlight the organizational benefit from adopting TQM by studying its impact on performance Wayhan and Balderson (2007). However, few of them have really been able to present concrete and field-tested arguments about its impact on financial performance.

According to Sink (1991), the interest attributed to financial performance derives its relevance from a given action (in this case TQM implementation) undertaken by a company to fulfill its basic mission to make profit. The reasoning followed by the author leads to the interest for a company as an organization behind adopting TQM considering two main aspects closely related to each other. The first aspect reiterates the pragmatic aim of adopting TQM, which is to provide the company with a form of organizational solution that would help it achieve profit. The second aspect seeks to assess the possible added value that would result from TQM implementation. Therefore, the question raised is: would TQM implementation provide a company with any form of support to its basic lucrative mission?

By expanding the scope of TQM literature review, a dialectical relationship between two main viewpoints emerges. The latter emphasizes a debate on the usefulness and even the effectiveness of TQM as a mode of management with strong impact on companies' performance. Different reports and studies were published on TQM's effectiveness, and authors diverged on how to determine its implementation's financial impact Lakhal et al. (2006). According to York and Miree (2004), most of these studies focused on soft measures such as managers' perceptions, and few of them addressed TQM impact in a concrete way on financial performance.

Total Quality Management and financial performance belong to a universal subject. To present a nuance induced by addressing this subject, the author suggests two main reflections. First, it refers to Tamimi and Sebastianelli (1996). The latter note that the definition of TQM in an entire way would not exist. It is defined rather differently regarding various contexts and circumstances. In other words, TQM is defined through a description of many ways of quality implementation in various forms of organizations. Here is food for thought concerning the research approach. It suggests evoking the second point of view from the conception of Juran (1994). The author defines TQM as a set of actions undertaken by organizations to achieve a global level of quality. Thus, it informs about the international interest of its use in an organizational environment.

Consequently, this paper will not be interested in examining differentiated TQM implementation from one organization to another. Instead, the contribution of this paper is an attempt to verify the "universal" positive relationship between an effective TQM implementation and the financial performance improvement. It relies on the following contributions: Deming (1986), Powell (1995), Avery and Zabel (2003), Witcher (1995), Pfan (1989), Ishikawa (1985), Lau and Anderson (1998), Gitlow (1994), Cole (1980), Juran (1981, 1994), Nonaka (1995), Gummer (1996), Stuelpnagel (1993) and Goetsch and Davis (2014). Through them, progressive global awareness that quality implementation enhances the benefits to organizations could be attested. This is supported by the acceptance of TQM as a management mode designed to do so.

LITERATURE REVIEW

According to a scientific trend in the literature, it seems meaningless to highlight any positive TQM impact on financial performance

The difficulty of implementing TQM excludes any presumed impact on performance

This reflection trend adopts a pessimistic view of TQM's impact on financial performance. In this sense, some authors, by referring to the difficulties encountered by some companies to effectively implement TQM, believe that looking for its presumed impact on performance would be meaningless (Bergquist and Ramsing (1999), Harmon and Peterson (1990), Hafeez et al. (2006), Schaffter and Thomson (1992) and others).

More so, the difficulty for a company to understand and assimilate TQM's conceptual practices would make it incoherent to verify any possible effect it could have on performance in general. Eskildson (1994) explains this for two main reasons: firstly, the definitions of the concept remain vague. Secondly, in most cases, there is a failure in its implementation. Thus, there is no consensus on the suitability of TQM initiatives to develop firms Harmon and Peterson (1990).

Same again, Bergquist and Ramsing (1999) develop a negative picture of TQM's principles translation in real terms and conclude that it is difficult to admit its relationship with companies' financial performance. Moreover, several other authors note reservedly the feasibility of TQM's practices even they were initially conceived by highlighting an advantage to organizations namely through cost control Schaffter and Thomson (1992) and Naj (1993). In addition to that, only a small number of organizations succeeded in adopting a holistic approach to TQM Hafeez et al. (2006). At best, the author peruses, most of them focused on technological elements to improve their performance rather than on organizational arrangements as stated through TQM's fundamental principles.

If TQM principles could be implemented, they would not have a significant effect on financial performance

Some authors, even by attesting to a possible TQM impact on financial performance, consider this impact to be very modest Handfield et al. (1999). What is more, according to Kannan et al. (1999), the lack of correspondence and complementarity between the orientation towards the total quality of a company and that of its stakeholders could even lead to reduce financial performance.

Lascelles and Dale (1994) see TQM implementation from a critical point of view for an investor, that of "time". They attest that the implementation of TQM's fundamental principles, procedures and systems can easily exceed ten years. Consequently, the potential benefits of TQM do not appear immediately Reed et al. (1996).

On another aspect, for Harari (1993), TQM is inefficient regarding the profit it gives in terms of investments. He reports, based on his own experience that in best cases only one third of total quality management programs would lead to improve performance. In the same line, Kober et al. (2012) explore TQM practices within organizations and realize that the improvements they imply do not result in sustained financial performance. Similarly, Hendricks and Singhal (1996) report that, except their quality certification day, companies adopting TQM did not realize any form of non-current income that would positively impact their financial performance. What is more, corporate performance levels are also influenced by socio-economic factors that have nothing to do with total quality management Hendricks and Singhal (2000b).

Some aspects mentioned in the literature concerning TQM make it difficult to emphasize its positive impact on financial performance

Hendricks and Singhal (2000b) refer to a set of articles, studies and surveys that blacken the image of total quality management. Starting with press articles on its inability to improve financial performance. Going through number of surveys with business leaders highlighting modest percentages of their positive perception of TQM's financial usefulness. Ending with some work done by advocates of this type of management who, however, lack tact and are all unfit for persuasion.

What is more, Almaraz (1994) and McAdam and Bannister (2001), while trying to present favorable arguments to TQM implementation, state a huge organizational change required. This kind of descriptions may be misleading. It would suggest that TQM implementation would fail because of the potential resistance to change by the actors involved (Shin et al. (1998)).

Others have limited their attention to some purely abstract aspects of total quality that they consider vital by positively impacting performance (Eisenstat (1993) and Ford and Ford (1995)). Similarly, Juran and Gryna (1980), while defending aspects of quality improvement, confront evaluation and forecasting costs with those of internal and external non-compliance. While seeking to refine the level of optimal compliance namely through TQM, the authors attest, nevertheless, that quality would always imply a positive proportion of defective parts.

TQM is not a key element affecting dramatically financial performance

For Zhang et al. (2012), TQM's efforts alone are not sufficient to improve the company's performance in general and the financial one particularly. For instance, Chin and Sofian (2011) note the need to consider "human capital" as an essential additional factor when studying a perceived financial effect of TQM. Demirbag et al. (2006) find that TQM would have an impact on non-financial indicators rather than financial ones. And in a comparative study, Mathews (1992) and Fuchsberg (1993) mention that firms implementing TQM do not outperform non-adherents in any way.

For other authors like Keiningham et al. (1994), the most successful quality improvement efforts are those related to processes that reduce costs and improve customer satisfaction. However, authors note that firms need to determine how profitable their quality programs would be because the resources allocated to quality must lead to a return comparable to other viable alternatives of investment. They were interested in companies that invest heavily in quality initiatives and found themselves with dramatic falls in both goods' quality and client satisfaction. As a result, these companies suffer financially to join quality programs to profitability. The authors also draw attention to quality programs that fail and fall behind desired levels of performance and cost more than expected instead of focusing on the most cost-effective improvement alternatives.

A second debate line arises attempting to revitalize the image of TQM by enhancing its alleged contribution to improve financial performance. For Shahin (2011), all the advantages of TQM including cost control would justify its significant impact on financial performance.

TQM is, by definition, associated to organizational performance and is increasingly adopted by companies around the world

In reaction to the negative publicity against TQM, some authors revisit its theory to reiterate what it is, to show why nothing is inconsistent in TQM, and what companies need for its successful implementation with high impact on performance King (1992), Johnson (1993), Senge (1993), and others. Especially that TQM's methods and tools are generally accepted and used worldwide.

Other authors simply support the arguments stated above to mention the sturdy growth (not decline) of TQM adoption rate to exclude a lack of impact on performance and invalidate the case of an alleged negative impact Haim (1993). Concretely speaking, Oakland (1989) argues that the methods and techniques used in total quality management are applied to all types of organizations around the world and promote their functioning's effectiveness and efficiency. Thus, Dale (1999) points out that there are impressive examples of internationally successful implementations of this type of management that are well known such as: Motorola, Federal Express, Xerox and others.

TQM's process control and prevention lead to efficient organizational functioning, making the organization more competitive

Other authors prefer to reflect on some of TQM's fundamental concepts. Thus, for Schonberger (1990), high client satisfaction enhances loyalty rate, which increases profits. This reflection is shared by several other authors such as Shetty (1987), Rust et al. (1994), Slater and Narver (1995), and others. For them, companies that manufacture high-quality products improve their competitive position by reducing costs, boosting sales and market share, and generating large profit margins. In addition, customer demands in terms of value in the form of price versus quality and in terms of product performance and availability have obliged firms to compete based on their operational capabilities on which TQM place considerable importance Vonderembse and White (1996).

Ishikawa (1985) adds a component that focuses on prevention practices used by TQM. He refers to an investment in prevention efforts that would result in a significant cost downward, particularly those related to malfunctions. Consequently, attention given to control process reduces costs (thus increases profits) over the long term. Deming (1982) and Crosby (1979), by prescribing zero defects as the perfect level of optimal desired conformity, indicate that quality compliance is inversely proportional to costs. This is largely supported by Modi and Mishra (2011) as well. For them, the resulting resource efficiency is positively related to financial performance.

The scientific methods used in TQM increase the company's earnings-to-cost ratio and, consequently, the confidence of its investors and donors

In fact, quality has emerged as an imperative choice to operate by companies. For Hawkes and Adams (1995), it is the strong competitive pressure that leads several manufacturers to massively adopt TQM to survive and succeed. Thus, thanks to the scientific approach used in operations, Jensen (1993) mentions that TQM improves organizational effectiveness. This would encourage the creation and the use of specific knowledge with a strong impact on measured performance, including the financial one.

Easton and Jarrell (1998) also agree that firm performance is improved over the long-term due to TQM implementation. Therefore, for Hansen (1994), the economic benefit of TQM which interest firms is the fact that it increases the earnings-to-cost ratio. Moreover, through TQM’s positioning as a philosophy and practices supporting corporate governance, sponsors and investors are more likely to bring their commitment which is a vital element for the business viability Zairi et al. (1994).

Global quality practices standards promote compliance and TQM institutionalization reduces costs

Some authors have chosen to highlight a relevant aspect of standardization and conformity philosophy induced by TQM. For Nadvi and Waltring (2004), the financial benefits of TQM's standardization go far beyond the organization itself. According to them, standards are important in promoting economic efficiency as they provide a basis for reducing transaction costs related to information.

In this way, standardization represents a coordinating mechanism and a regulatory instrument comparable to other instruments such as public regulation, market regulation, and formal organizations alliances Antonelli (1994) and Brunsson and Jacobsson (2000). Moreover, this standardization was crucial in the development of the industrial society Blind (2004). This implies a form of TQM institutionalization in organization which, alongside other institutional factors, shapes the perceptions of cost calculations. This approach has a strong financial effect in the context of customer/supplier transaction relationship Bates and Hollingworth (2004).

Many studies and real cases show a positive impact of TQM implementation on financial performance

Some authors like Easton and Jarrell (1998) and Flynn et al. (1995b) conclude directly that effective TQM implementation improves financial performance. Similarly, after a three-year study, Kaldenberg and Gobeli (1995) found a positive association between total quality practices on one hand and two conventional indicators of financial performance on the other hand, namely turnover and income.

In the same way, Hendricks and Singhal (2000b) conclude with the significant improvement of the company's financial indicators through TQM implementation. And Boulter et al. (2013) report that companies implementing TQM as a quality management system in accordance with international standards show signs of strong financial performance irrespective of their structures and national institutional frameworks.

DATA AND METHODOLOGY

At the end of the debate stressed above and taking into consideration a set of empirical studies including those carried out by Easton and Jarrell (1998), Eriksson and Hansson (2003), Fuentes et al. (2006) and others, it could be argued that TQM implementation improves companies' financial performance.

This paper will focus on a more "contextual" examination of this alleged link between the two components. In fact, it arouses the interest of researchers worldwide. Indeed, many authors have attempted to contribute to responding to it from various national contexts of TQM adoption, some examples of such studies include: Williams (1997) from Great Britain, Hendricks and Singhal (2000a, 2000b, 2001), Easton and Jarrell (1998), Modi and Mishra (2011), Klingenberg et al. (2013) from United States. Ciptono et al. (2011) from Malaysia. Duarte et al. (2011) from Brazil. Boulter et al. (2013) from European Union. Shahin (2011) from Iran. Montes and Jover (2004) and Corredor and Goni (2011) from Italy. Kober and Watson (2012) from Australia etc.

Willing to be part of this major international initiative, this paper intends to present a scientific contribution from the Moroccan context. It considers that this issue requires a collective response from different national contexts. The research question is then presented as follows:
Given the organizational practices it entails, would TQM core principles' implementation enhance Moroccan companies' financial performance?

The author refers to two main aspects designed with a direct focus on the impact of TQM implementation on financial performance. They include customer satisfaction on the one hand and continuous improvement on the other Dahlgaard et al. (2002). In this perspective, York and Miree (2004) report that the theoretical basis for the link between the actual practices of TQM and financial performance depends on two main aspects, namely:

1. TQM highlights the improvement in quality levels which, in turn, generates customer loyalty. The latter is the source of income for a company. And it increases market share and reduces costs through an efficient design of the product which increases profits to the company.
2. TQM would improve operations namely through optimizing the use of resources and reducing waste George and Weimerskrich (1998). This has a positive impact on financial performance.

We refer to the clarification made by Belkasseh and Lemtaoui (2015). Therefore, the paper will try to examine the impact of TQM implementation on "the evolution of financial performance indicators". This choice is motivated by the different constraints of time, budget, and especially access to internal information (in terms of preset objectives on the one hand, and the work performance on the other hand) relating to Moroccan companies for a possible empirical verification. The research question is then reformulated as follows:

Given the organizational practices it entails, would TQM core principles implementation enhance Moroccan companies' financial indocators?

Moroccan listed companies

In the literature, the orientation was made towards listed companies York and Miree (2004). In addition, in several other studies belonging to the same research area including Agus et al. (2000), the methodological choice of the population needed to conduct the empirical verification of the various research propositions put forward has concerned listed companies.

In fact, in attempting to justify their position on this methodological choice, the author tried to present some arguments. Thus, Agus et al. (2000) explain that within these companies, TQM practices are adopted in order to guarantee a certain level of competitiveness given the implications of survival and performance objectives. Chapman et al. (1997) argue that the adoption of integrated managerial approaches such as TQM would be more successful in large firms. To do this, they select companies listed in the Australian Stock Exchange as their empirical verification population.

For this reason, it would be relevant, firstly, regarding the criterion of correspondence with the study context, to spread the scope of verification on Moroccan companies listed in Casablanca Stock Exchange. This choice is primarily motivated by the financial approach intended. Indeed, in seeking to assert or to invalidate the stated positive impact of TQM on financial indicators, the use of accounting information (financial statements) is needed especially that it remains publicly available in the case of listed companies and are certified by legal independent auditors.

TQM effective implementation criterion

To explore TQM's effect on the financial indicators, it is crucial to be able to decide on a form of objective recognition of an effective TQM implementation. For Benson et al. (1991) and Kolesar (1995), this is tricky as long as some researchers show a serious discrepancy between what is conceived as TQM and what is actually implemented. Moreover, for Easton and Jarrell (1998), several companies claim to have implemented total quality in their functioning while they have made practically no changes (other than public rhetoric). Consequently, this paper tries to set a criterion which, at the same time, would be a way of bringing TQM theory closer to practice in organizations.

Given the importance it attaches to the implementation of total quality in organizations despite their activities, sectors, and economic contexts they belong to, this study considers it useful to choose ISO 9001 certification of quality management systems as a criterion for TQM implementation by Moroccan firms explored.

This criterion has also been adopted, by a set of similar studies in the world, including: Williams (1997), Duarte et al. (2011). And other studies in this field have opted for other quality certifications (national and regional, among others) as it is the case with Hendricks and Singhal (1999,2000a, 2001), Hansson and Eriksson (2002), York and Miree (2004) and others.

Adebanjo (2001) notes that researchers and institutions have used similar standards and certifications to elucidate TQM effective implementation. According to iso.org (2015), ISO 9001 is a norm establishing the expected characteristics and features a quality management system is required to have. This helps companies and organizations to be more efficient and improve customer satisfaction.

Financial performance indicators gathered from financial statements

By designating Moroccan companies ISO 9001 certified and listed in Casablanca stock exchange, the study relies on the financial information made public in this case. It is a methodological choice that is motivated by the need for an objective measurement base.

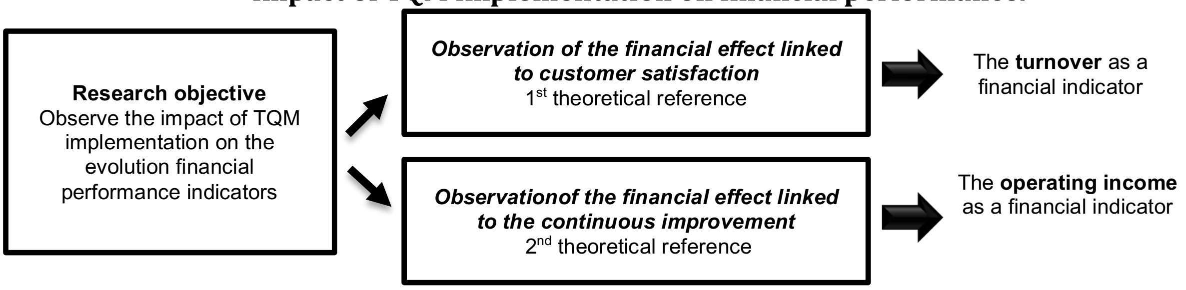
The choice of financial performance indicators will be made among the information provided in the financial statements of listed companies. This is an approach that Stanleigh (1992) and Boulter et al. (2013) strongly welcome giving the importance of accounting-based information to provide indicators summarizing the performance of various processes within the organization as part of TQM implementation. For Holmberg (2000) and Eccles and Puburn (1992), these indicators not only measure past results of functioning but are used by organizations to assess the impact of their strategies and programs implemented as well.

To implement this approach, the study refers to York and Miree (2004) model on TQM and performance. The latter informs about two main aspects of TQM philosophy, namely: customer satisfaction on the one hand and continuous improvement of the operating process on the other. These two points explain the position held by the research hypothesis on the improvement of financial performance indicators due to TQM implementation.

The stated model, by summarizing the theoretical framework, informs on two main tracks of observing the financial indicators' evolution. By the same way, it guarantees the expected relevance in relation with the research objective.

Therefore, the research suggests assigning to each of the two components cited by York and Miree (2004) an indicator corresponding to financial performance. Figure 1 shows that the turnover is used to observe the financial effect linked to customer satisfaction and the operating income is used to observe the financial effect linked to the improvement of the operating process.

Figure 1: An empirical model for two financial indicators allowing to observe the impact of TQM implementation on financial performance.



This figure shows an empirical model suggesting the use of turnover and operating income as financial indicators in order to observe the financial effect linked to customer satisfaction the improvement of the operating process respectively after TQM implementation.

Study's duration

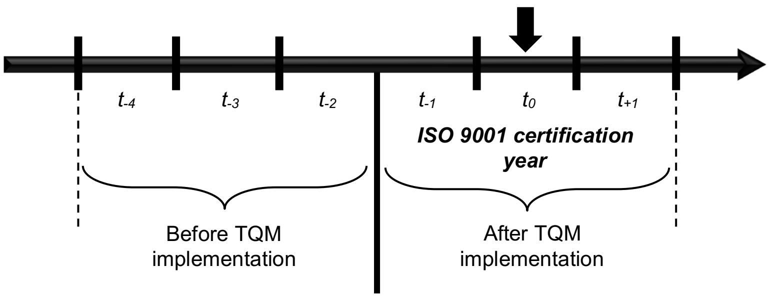
The research suggests selecting a group of companies according to three fundamental aspects, namely: the event of the receipt of their ISO 9001 certification, the period prior to this certification, and the post-certification period. The date separating the period before TQM from the one after TQM is undoubtedly a key moment in the empirical observation.

Given the empirical study's methodological configuration, and in the absence of precise dates enabling us to place the temporal marks per month, or even ideally, per day, the research considers it relevant to adopt the same methodological reasoning followed by Hansson and Eriksson (2002) to constitute two distinct temporal areas making it possible to compare the results of two successive and objective observations over time.

The year of ISO 9001 certification receipt by the individuals studied is designated as the moment t_0. From this first frame, we can therefore define the post-implementation period of TQM implementation. It is logical to assume that the attribution of the ISO 9001 quality certification to a company implies that its operating process has followed the requirements of that standard at least since the beginning of the corresponding quality audits. The process of QMS according to ISO 9001, in general, including certification process, lasts one year approximately regarding the organization's size, its prior situation, and the level of commitment and cooperation of its human resources. Thus, the research suggests including year t_{-1} prior to t_0 to place the time frame separating the period from normal functioning to that under TQM implementation.

Hansson (2002), noting that the advantageous development of financial performance due to TQM would be more perceivable in the post-implementation period, suggests observing possible financial consequences of TQM implementation over the long term as the benefits made during its implementation are difficult to cover. However, for Hackman and Wageman (1995), if we wait longer to measure the impact of TQM after its implementation, the performance data could be biased by other factors, both exogenous and endogenous. Figure 2 below shows a reasonable choice for temporal limitation, the research suggests spreading the area of observation over three years after the separator mark t_{-1}, i.e. the period consisting of years t_{-1}, t_0 and t_{+1} to analyze the financial indicators evolution under TQM implementation that will be compared with its symmetrically preceding period of three years, namely t_{-2}, t_{-3}, and t_{-4} before TQM.

Figure 2: Temporal limitation of normal operating period and the operating period under TQM implementation to observe the evolution of financial performance indicators



This figure shows the study's duration, the research suggests spreading the area of observation over three years after the separator mark t_{-1}, i.e. the period consisting of years t_{-1}, t_0 and t_{+1} to analyze the financial indicators evolution under TQM implementation that will be compared with its symmetrically preceding period of three years, namely t_{-2}, t_{-3}, and t_{-4} in the absence of TQM.

Control group selection

The research work aims to ensure a form of "internal validity". The latter measures the coherence between the theoretical statements supporting the research hypotheses to be verified, and what is therefore measured Kaplan (1987) and Hedrick et al. (1993). This would make this research able to exclude alternative explanations of the results, or "plausible rival hypotheses" after observation.

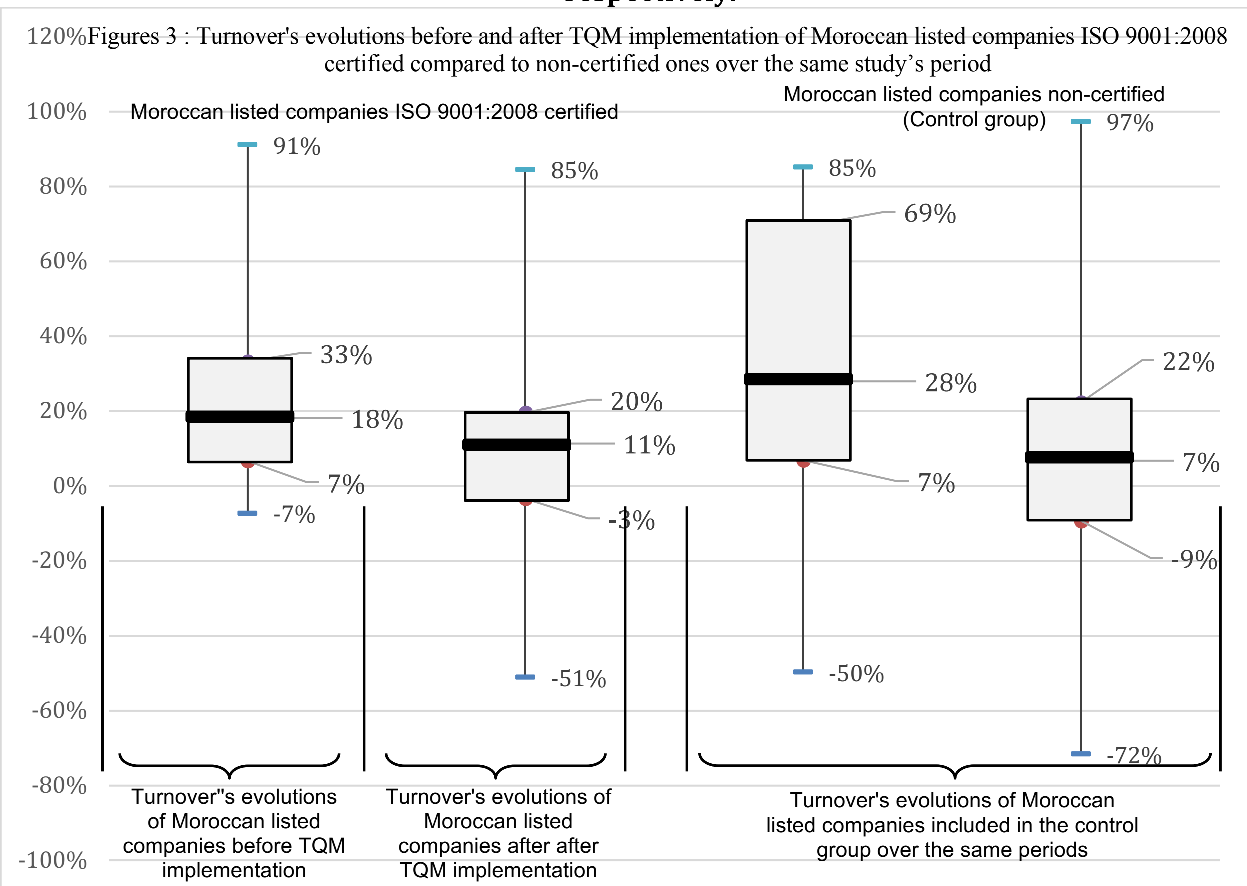
Practically speaking, the research intends to carry out, in parallel with collecting and analyzing data, include data of a group of companies that do not fulfill the stated sample's criteria. However, this control group of companies is set up in such a way as to allow an analogical comparison of the results generated later. In other words, it would include companies that have not been certified (therefore, methodologically speaking, have not implemented TQM), but whose accounting information will be scaled over all companies in the methodological sample.

This control group would show whether the phenomenon observed is due to the manipulated independent variable (i.e. TQM implementation) or to an uncontrolled variables Pedhazur and Schmelkin (1991). In this way, the control group would increase internal validity by minimizing possible influences. This will allow to attribute the results of the study more confidently to the independent variable studied Rosnow and Rosenthal (2002).

Research propositions are the following:
H1: effective Total Quality Management implementation would have a positive financial effect related to customer satisfaction.
H2: effective Total Quality Management implementation would have a positive financial effect linked to the operating functioning continuous improvement.

RESULTS

Figures 3 shows the turnover's evolution before and after TQM implementation for the methodologically selected companies (left side) and the control group (right side) respectively.



This figure shows the turnover's evolution before and after TQM implementation for the methodologically selected companies (left side) and the control group (right side) respectively.

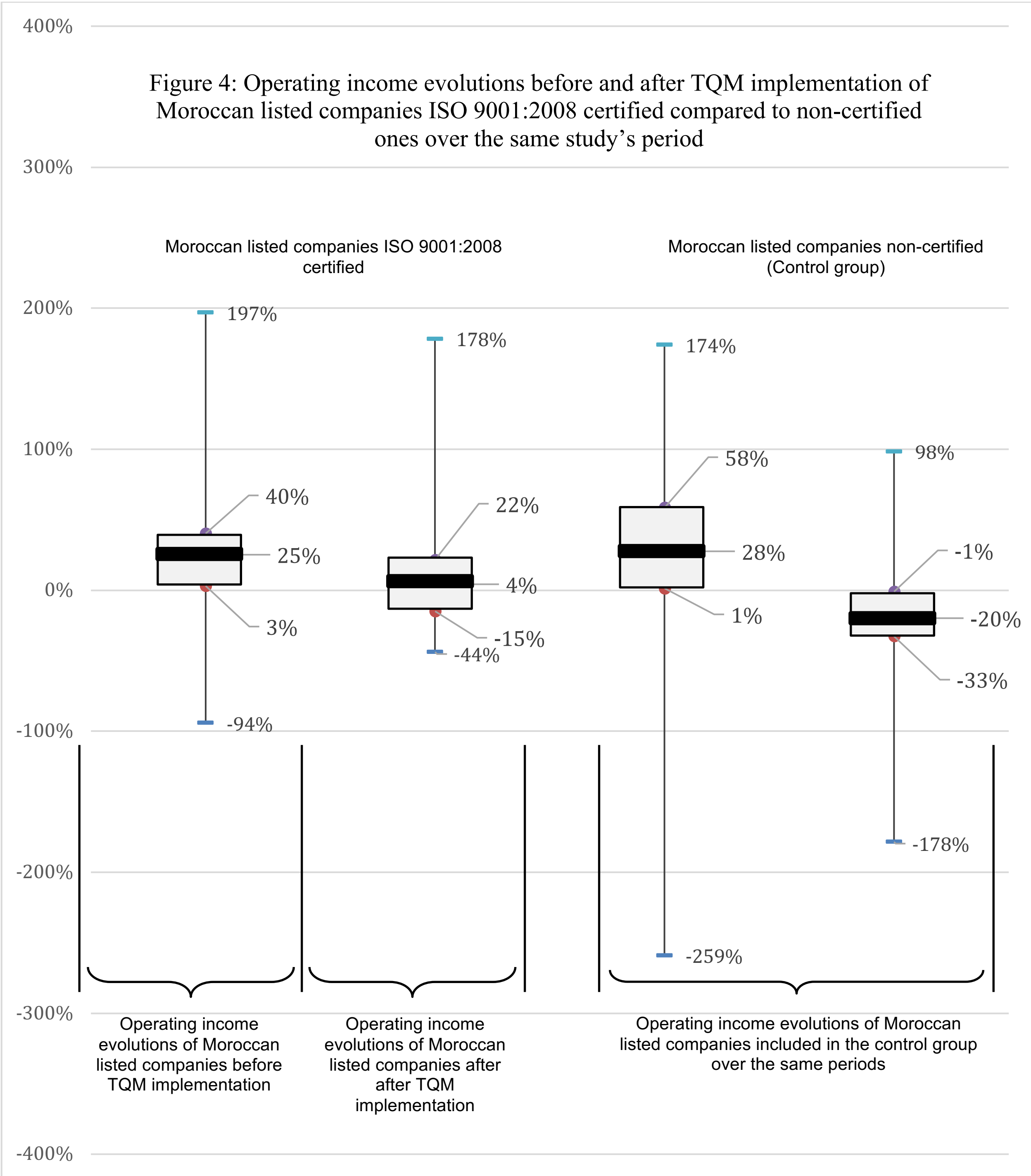


Figure 4: Operating income evolutions before and after TQM implementation of Moroccan listed companies ISO 9001:2008 certified compared to non-certified ones over the same study's period

This figure shows the Operating income evolution before and after TQM implementation for the methodologically selected companies (left side) and the control group (right side) respectively.

CONCLUDING COMMENTS

Considering the empirical results, three elements would allow to respond and reflect on the initial research question.

First response element

The first descriptive findings show a general decrease in the evolution of the financial performance indicators studied. However, the intensity of this trend is less important for companies implementing TQM than for those belonging to the control group. Thus, the two sub-hypotheses of research could be asserted by arguing that effective TQM implementation would have a positive financial effect related to the philosophy of customer satisfaction (*H1*) on the one hand, and continuous improvement (*H2*) on the other.

This brings directly to some statements from literature corresponding to the study and supporting the initial hypothesis. In terms of customer satisfaction, many authors have stressed the importance of TQM in its orientation towards customer requirements and expectations in order tp guarantee their loyalty (Simons (2000), York and Miree (2004), Chong and Rundus (2004), Giaccio et al. (2013), Debanjan and Golder (2005), Kara (2005), Ernoul (2010) and others).

In addition, many authors emphasize the attention paid to organizational functioning within TQM framework regarding three fundamental aspects. First, the analysis of the entire organizational functioning, and the use of standards. The level of quality being the difference between all the established procedures and their execution (Hutchins (2008), Hoyle (2005), Kaynak (2003), Oakland (2003), Cherly (2011) and others).

Secondly, the intermediate economic position that a company has between its customers and its suppliers, means that the same degree of attention given to the former should be associated to the latter. Suppliers' technical, organizational and cooperation offer is a vital condition for any company to achieve a relationship of trust and loyalty with its own customers Day (2006), Goetsch and Davis (1997), Dyer (1996), Sinclair et al. (1996) and others.

Thirdly, adhering to the organizational philosophy advocated by TQM includes effort to accompany, qualify and "satisfy" human resources within a company. The internal services of the latter in accordance with established quality standards are the key to organizational success and operation control Goetsch and Davis (2014), Cherly (2011), Cameron and Sine (1999), Knights and McCabe (1997) and others.

Second response element

The overall downward trend observed in the empirical results awakens curiosity. To ensure a better understanding, some factual analytical elements could be explored.

The study suggests referring to the periods corresponding to the financial information available collected according to the methodology. Two major periods appear as follows: the first period from 2004 to 2007 (companies studied under normal functioning before TQM) and the second period from 2008 to 2013 (observation after TQM implementation). The periods correspond to the economic crisis.

That would represent a very interesting point for this research work, which could feed and broaden further the debate on TQM implementation impact on the organizational level in general and on the financial one in particular. One of the main reflections that could be issued is that effective TQM implementation, by advocating compliance assurance with well-defined standards, would make organizations in general and companies more immune to economic situation vagaries. The fact from the results is that during the global economic crisis, companies implementing TQM shows more stability than those of the comparative control group.

Third response element

Before actual (and formal) TQM implementation in comparison with the performance levels scaled over the same period for the control group. The latter outperforms companies implementing TQM in terms of turnover and operating income.

This case refers directly to a set of researches from which two main possible explanations could be issued as follows:

The first explanation refers to several contributions, namely Goetsch and Davis (1994, 2014), Easton and Jarrell (1998), Montgomery (1991), Khan (2000), and others. The authors insist that the improvement of financial performance following TQM implementation is to be particularly measured in the long term. This is based on five main points as follows:

1. TQM focuses on profits and continuous improvement over the long term namely through a preventive way of detecting and resolving possible dysfunctions Goetsch and Davis (1994,2014);
2. In Japanese culture (as a model for the success of quality in organizations), the focus is made on long-term profit Ishikawa (1989);
3. There is an organizational investment required in TQM implementation that results in an important control over operations especially related to non-quality costs Easton and Jarrell (1998) and others;
4. Trust and subsequent support from investors and funding institutions to organizations adhering to globally recognized operating standards is a key advantage of improving long-term financial performance Zairi et al. (1994);
5. The win-win relationship companies have with their suppliers under TQM pays off in the long term Swinehart et Green (1995);

The reasoning above is shared by Hansson (2002). For the author, the advantageous financial performance evolution, in the companies implementing TQM, would be more apparent during the post-implementation period. The author suggests observing these potential financial benefits over the long term. According to him, at the time of implementation, during organizational investment, preparation, and ultimate reorganization efforts, TQM financial advantages are difficult to assess.

The second explanation, is to consider the crisis mentioned above. Since 2008, companies have automatically chosen to act first on training and communication budgets. Moreover, some companies have not been financially able to pursue TQM implementation. And in other cases, they have simply abandoned their certification processes (exporters in majority) La Vie éco (2011).

This informs about TQM implementation through certification standards mentioned by several authors including Maskus et al (2005), Potoski and Prakash (2009) and others. For them, the organizational cost linked to TQM implementation process (before an effective implementation) would be a "handicapping" element.

For Potoski and Prakash (2009), costs associated with certification include implementation costs such as procedures and documents creation and maintenance, organizational restructuring processes, training programs and certification costs such as those related to private certifying entities. In this sense, Maskus et al. (2005) note that certification costs are particularly high in developing countries (including Morocco).

CONCLUSION

The main objective of this paper is to highlight the impact of TQM implementation on the financial performance of Moroccan companies listed in Casablanca Stock Exchange. In order to perform a methodological sorting, the study has chosen the ISO 9001: 2008 certification as a criterion for TQM implementation. Then, the author was able to observe the evolution of two of financial performance indicators related to quality, namely operating income and turnover. The observation focused on two key periods before and the after TQM implementation.

The following propositions were tested:
H1: effective Total Quality Management implementation would have a positive financial effect related to customer satisfaction.
H2: effective Total Quality Management implementation would have a positive financial effect linked to the operating functioning continuous improvement.

According to the results, the following conclusions were drawn:
- ✓ TQM implementation would have a positive financial impact related to customer satisfaction on the one hand and to continuous improvement of operations on the other.
- ✓ There would be a positive impact between effective TQM implementation and the evolution of financial performance indicators
- ✓ Effective TQM implementation would immunize the companies against the vagaries of the globalized economic conditions
- ✓ The positive impact of an effective TQM implementation on financial performance would be seen in the long term
- ✓ Effective TQM implementation would be conceived as an organizational investment that would slow down the financial performance of companies while implementing it.

It is true that the sample is made of almost half of the Moroccan listed companies (apart from the control group). However, the study cannot claim that results are valid for the entire Moroccan economy.

In addition, several other research perspectives would be possible in the light of the findings. They could attempt to answer the following questions:
Would the results be the same in the context of a more favorable global economic climate? As a result, the contribution of this paper could be completed later over longer observation periods

What would be the consequences by opting for more specialized observations focused on companies' size, sector or region?

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