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ISO 9001 Standard and Organization's Performance: A Literature Review

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Abstract

Nowadays, ISO 9001 has been adopted by different organizations in all over the world. This standard was first introduced in 1978 by International Organization for Standardization (ISO). Several empirical studies revealed the importance of this quality management tool for improving continuously performance within the organizations, in order to satisfy customer's needs and promote competitiveness in the market. Although ISO 9001 standard has shown its usefulness to the companies from different sectors, but there is no consensus among practitioners and scholars whether ISO 9001 considerably enables to improve firms' performance. Thus, this study was performed to review the findings of the empirical studies, which tested the hypothesized relationship between ISO 9001 standard and the different perspectives of organization's performance, in order to present an aggregate overview of the role of ISO standard in improving performance in the organizations from different sectors. So, the research was designed to identify, select, and review the empirical studies that were relevant to the objectives of the research, and likewise published between 2002 and 2017. From literature review, the only 19 empirical studies selected that were relevant and fitted to the criteria of the study with the aim of obtaining the results and conclusions. Finally, the analysis of the results of the empirical studies uncovered that ISO 9001 significantly affected internal business process, while this standard was not correlated with the indicators of innovation and learning perspective at significant level. Furthermore, the systematic review of the existing literature provided enough evidence that the effectiveness of ISO 9001 on customer's results and financial performance were unclear and contradictory.

Keywords
ISO 9001; Innovation and learning; Customer results; Financial performance; Literature review; Organization's performance; Operational performance.

1. Introduction

With the turn of the new millennium, global competition has increased. This competitive pressure has motivated the companies' management to change their strategies and methods [19], in order to achieve performance excellence, and the organization's goals [22]. Without doubt, ISO 9001 standard is one of effective and efficient technique to improve continuously performance in the organizations [9]. ISO 9001 has proven to be the popular management system [31]. It is a set of the requirements for a quality management system (QMS) with a tested framework based on “PDCA” cycle (Plan-Do-Check-Act cycle) that causes this standard improves effectively organizations' performance. This standard is a “generic standard” for all organizations, regardless of their size and field of activity. Its intention is to satisfy customers' requirements [21], [13]. Today ISO 9001 is widely adopted by different sectors in 188 countries, according to the latest ISO “survey of certifications” [7].
the number of total ISO 9001-certified organizations was about 1,138,155 certificates by 2014. ISO 9001 implementation is a strategic decision [25].

Several studies were examined and determined the advantages and effects of ISO 9000 on specific performance in the organizations. Lushi et al. [13] reviewed 50 research papers concerning impact of ISO 9001 on the companies, they found that the organizations were achieved the 13 benefits of this standard, such as: “exports”, “efficiency”, “improvement in competitive position and competitive advantage”, “improvement in systematization”, “improved quality in product and service”, “improved image”, “improvements in employee results”, “improved customer satisfaction”, “improved relationships with suppliers”, “improved relationships with authorities and other stakeholders”, “market share”, “profitability”, and “sales growth”. In addition, the implementation of ISO 9001 can be the “pro-active strategy” to improve performance in different organizations [14].

Although ISO 9000 certification has shown its benefits, but the research community is still “ambiguous” to its usefulness or potential advantages of ISO 9001 in improving the overall performance of the firms [9], [17], [12]. Many studies reported that the level of the effects of ISO 9001 standard on on firms' results are still unclear, contradictory and there are many “conflicting opinions” [30]. It seems that the effectiveness of ISO 9001 standard has been “contradictory” in nature indicating “positive and/or negative financial and organizational results depending on the multitude of factors studied in each particular research” [10, p. 33]. Furthermore, the results of some empirical studies in construction and service sectors have been asserted that the implementation of ISO 9001 is just wasting time and money for “consultancy”, “training”, “periodical internal and external audit”, and “certification fee” without any tangible advantage, except promoting competitiveness in the market, not more [23]. Similarly, Farooqui and Ahmed [2] stated that ISO 9001 standard focuses on short-term goals and benefits that makes the organizational processes less efficient.

The real key issue is assessing the impact of ISO 9001 standard on companies performance, which can clarify whether ISO 9001 can have any benefit for the organizations or not [9]. Therefore, this paper used a systematic review from existing empirical studies that analyzed the influences of ISO 9001 standard with different perspectives (dimensions) of performance within different sectors, through which the authors have been specified the most significant dimensions of the main performance indicators affected by the ISO 9001 standard, in order to achieve the objective of the study, and determine what exactly the relationship between this standard and performance is in the organizations.

2. Methodology

As mentioned earlier, the goal of this study is to specify the impact of ISO 9001 on performance of the organizations from different industries in various countries through reviewing the empirical studies examining the hypothesized relationship between ISO 9001 and a set of performance measures. For this aim, the current study was adopted a systematic and rigorous review to identify appropriate research papers in this study based on three steps, as Neyestani and Juanzon [19] accomplished for their studies.

First, a comprehensive search was conducted using online databases to identify empirical studies, which published in English and referred journals or conference proceedings. Meanwhile, the data search period was from 2000 to January 2016. These databases were namely; Elsevier Science, Google Scholar, Emerald (MCB) Database, EBSCO, ProQuest and Anbar International Management. Likewise, the study was being searched based on the phrases, or keywords “ISO 9000 or “ISO 9001” and “performance or organizational indicators in the titles, keywords, or abstracts of the articles. In this process, the online databases yielded 371 research papers.

Second step, the study was reviewed the abstracts of the papers with the aim of specifying and selecting the papers being empirical and using inferential methods to test the relationship between ISO 9001 and organizations' performance. Based on this process, the study found that the majority of the studies were descriptive and theoretical studies, and before 2000, and the only 68 research papers were formulated hypotheses for measuring the impact of ISO 9001 on performance within different industries and countries after 2000. So, these 68 papers were determined for next step.

Finally, the content analysis was used in this research, to review and examine qualitatively/subjectively the identified papers (68 papers), in order to ensure that their contents are relevant to the criteria and the objective of this study. Therefore, the research papers were subjectively examined one by one carefully with the aim of selecting suitable and fitted papers for the study. Consequently, a total of nineteen (19) empirical studies were selected and finalized for further study, as illustrated in Table 1.
3. Results and Discussion

As stated previously, 19 empirical studies determined from the literature review, which were appropriate to use for this research. From Table 1, it can be observed that these empirical studies were carried out between 2002 and 2017. The reason that this research was selected and focused only on empirical studies after 2000 because ISO was upgraded ISO 9001 in 2000, from a quality assurance tool to an effective quality management technique with a tested structure based on PDCA cycle, which gives possibility to this standard in improving the performance of the organizations continuously [21], [8]. Furthermore, most of the studies were accomplished within manufacturing sector in different countries.

It was revealed from literature review, that the empirical studies employed a wide range of performance indicators or KPIs for measuring the impact of ISO 9001 on performance of the organizations, such as: product quality; market share; customer's satisfaction; flexibility; ROA; profitability; employee satisfaction; cost of production; time; supplier performance; innovation; competitiveness. Meanwhile, some researchers used only financial measures, others adopted many other operational performance indicators, whereas some measure the effectiveness of ISO 9001 standard on a set of the performance measures belonged to all main perspectives of performance (BSC) [17], [1]. Thus, in order to summarize and simplify the data analysis, the current study classified and discussed the effects of ISO 9001 on performance of the organizations in four main dimensions or perspectives of Balanced Scored (BSC), as suggested by Neyestani and Juanzon [20], as follows:

1. Internal process perspective (Operational performance): Performance measures monitor the activities, which related to produce the products or services, in order to satisfy the customers, such as: quality, time, productivity, costs of production, defects rate, etc.

2. Financial perspective: This perspective refers to the financial view of a company as presented to its shareholders and whether the strategy, implementation and execution of the company are contributing to bottom-line improvement [8], which are namely: quality cost, ROI, ROA, profitability, etc.

3. Customer perspective: Performance indicators are related to the customer's opinion on the quality of products, or services, and how company wants to be viewed by its customers [8], such as: customer's satisfaction, supplier performance, market share, etc.

4. Innovation and learning: Performance indicate the skills and knowledge of employees that the company should excel at to achieve superior internal business processes that create value for customers and shareholders [8], such as: employee satisfaction, innovation, sales growth, flexibility of delivery systems, competitiveness, etc.

Consequently, the outcomes of the hypotheses for each of the empirical studies (ISO 9001 and performance) categorized, summarized, and interpreted based on the above performance perspectives (BSC), as presented in Table 1. Likewise, this Table is provided a general view from the specifications of the empirical studies that selected in this study, such as: the performance perspective/s being investigated, sample size, sector/s, country/ies. Subsequently, the study was discussed and concluded based on the results of the following Table.
Table 1. Summary of the results of 19 empirical studies, which tested hypothesized impact of ISO 9001 with different dimension/s of performance

<table>
<thead>
<tr>
<th>Author/s</th>
<th>Impact of ISO 9001 on</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mangula [14]</td>
<td>+</td>
<td>Manufacturing (40 firms)</td>
</tr>
<tr>
<td>Islam et al. [6]</td>
<td>+ -</td>
<td>Manufacturing and service (201 firms)</td>
</tr>
<tr>
<td>Neyestani &amp; Juanzon [21]</td>
<td>+ +</td>
<td>Large-scale construction (67 firms)</td>
</tr>
<tr>
<td>Psomas [24]</td>
<td>+ +</td>
<td>Service (600 firms)</td>
</tr>
<tr>
<td>Sakka [26]</td>
<td>+ +</td>
<td>Different sectors (150 SMEs firms)</td>
</tr>
<tr>
<td>Nair &amp; Prajogo [18]</td>
<td>+</td>
<td>Manufacturing (281 firms)</td>
</tr>
<tr>
<td>Fatima [3]</td>
<td>±</td>
<td>Different sectors and sizes (95 firms)</td>
</tr>
<tr>
<td>Neyestani &amp; Juanzon [23]</td>
<td>+</td>
<td>Large-scale construction (67 firms)</td>
</tr>
<tr>
<td>Yaya et al [31]</td>
<td>-</td>
<td>Service (123 firms)</td>
</tr>
<tr>
<td>Lakhal [12]</td>
<td>+</td>
<td>Different sectors (176 firms)</td>
</tr>
<tr>
<td>MartínezLorente &amp; MartínezCosta [16]</td>
<td>- ± -</td>
<td>Large-scale Manufacturing (442 firms)</td>
</tr>
<tr>
<td>Sun and Cheng [29]</td>
<td>+</td>
<td>Manufacturing (180 firms)</td>
</tr>
<tr>
<td>MartinezCosta et al. [17]</td>
<td>- ± - -</td>
<td>Different sectors (2938 firms)</td>
</tr>
<tr>
<td>Kuo et al. [11]</td>
<td>+ - -</td>
<td>Manufacturing and service (70 firms)</td>
</tr>
<tr>
<td>Han et al. [4]</td>
<td>- - +</td>
<td>Manufacturing (441 firms)</td>
</tr>
<tr>
<td>MartínezCosta &amp; MartínezLorente [15]</td>
<td>- ± -</td>
<td>Different sectors (713 firms)</td>
</tr>
<tr>
<td>Heras et al. [5]</td>
<td>-</td>
<td>Different sectors (400 ISO certified plus 400 non-ISO certified firms)</td>
</tr>
<tr>
<td>Saleem et al. [27]</td>
<td>+</td>
<td>Different sectors, SMEs (50 firms)</td>
</tr>
<tr>
<td>Al-Refaie et al. [1]</td>
<td>+ + + -</td>
<td>Manufacturing and service (130 firms)</td>
</tr>
</tbody>
</table>

Note: Internal business perspective (L); Financial perspective (F); Customer perspective (C); Innovation & Learning (IL); Positive (+); Negative (-); Mixed results (±).
3.1. Impact of ISO 9001 on Internal Business Perspective

Kaziliūnas [10] asserted that ISO 9001 can assist the organizations to improve the “production processes” through efficient method (Standardization) and effective framework to optimize the firm's performance. This standard can maintain and improve organization's performance continuously. In construction industry, several case studies were reported that ISO 9001 can cause improving quality performance, avoiding costly errors and delay during construction processes [2]. Thus, ISO 9001 is able to improve internal efficiency by reducing waste and non-value added tasks. Furthermore, the results of many ISO 9001 certified companies have been promoted the “documentation” and “work procedures”, and “a greater clarity of work”, which cause largely improving in “internal business processes” [13].

Similarly, the review of 19 selected studies highlighted that the majority of the empirical studies found the direct and significant impact of ISO 9001 on measures of internal process perspective [14], [6], [21], [24], [18], [12], [29], [11], [27], [1]. While Martínez-Lorente and Martínez-Costa [16], Martínez-Costa et al. [17]; Han et al. [4], Martínez-Costa and Martínez-Lorente [15] claimed that there was no relationship between this standard and internal process of the organizations. Interestingly, although Martínez-Costa et al. [17] concluded ISO 9001 cannot significantly affect internal process but they acknowledged ISO-certified companies performed better than non-certified firms on the internal performance results. Consequently, it is clear that the most of these empirical studies have found that generally a cause-effect relationship exists between ISO 9001 and internal process indicators or operational performance.

3.2. Impact of ISO 9001 on Financial Perspective

From literature review, the majority debated aspect in the previous studies was related to the impact of ISO 9001 on financial performances. Karim [9] stated ISO 9001 is an area that has not been accounted in detail by current research studies that evaluated the impact of this standard on financial issues within the organizations, but some published research on the implementation of ISO 9001 standard and financial performance measures highlighted that despite the statistical results indicating the positive relationship. Surely, this quality management standard is able to stimulate some activities that cause increasing profitability within the organization [10]. According to Fatima [3], the ISO 9001-certified firms had substantially greater “returns on assets” (ROA) and likewise ISO certified organizations can enable to increase sale rate and profitability in the companies. But Lushi et al. [13] and Islam et al. [6] claimed the only some ISO 9001-certified firms do better than non-certified firms regarding financial performance.

However, the results of the literature review reported that there is no consensus among scholars and authors regarding the impact of ISO 9001 on financial performance in the organizations. For example, some studies found the significant effect of this standard with the organizations' financial measures [23], [1], with ROA only [17], with financial performance of large and medium-scale firms only [3]. Whereas others indicated that there is no or a very weak relationship between ISO 9001 and financial indicators in the firms [5], [6], and in small-scale organizations [3], as demonstrated in Table 1. Accordingly, these studies have been indicated contradictory findings with conflicting outcomes regarding the relationship between ISO 9001 standard and financial perspective. Therefore, although ISO 9001 gives some internal and external benefits, and therefore many of them have a positive impact on individuals, operational issues and customers, but in fact, the relationship between the quality management standard and financial performance is not so clear [4]. Furthermore, some scholars who attempted to determine whether or not ISO 9001 standard affects the financial performance of organizations, were acknowledged that it is very difficult to measure and judge fairly concerning the significant impact of ISO 9001 with the improvement of financial performance in the organizations because there are many variables in the firms, which are related to financial issues [9].

3.3. Impact of ISO 9001 on Customer Perspective

The market share is one of the most reasons why companies adopt ISO 9001 standard [4], [9]. Doubtlessly, the customer’s satisfaction is tightly related to increase market share. There is evidence which suggests that firms can achieve internal improvements, or that standard can assist the firms maintain or increase their market share by satisfying the customers [9], [13]. Thus, the main purpose of the ISO 9001 is to promote the effectiveness and efficiency of organizations for obtaining continuous improvement through defect prevention process, in order to achieve their objectives and meet the
requirements of their customers [21]. Furthermore, ISO 9001 can properly make trust by a suitable relationship with customers with the aim of enhancing long-term customer support and improving customer satisfaction and loyalty [10].

Interestingly, other advantages of ISO 9001 standard in the organizations are “an improved image and an increased sale rate, because the fact that they have a certificate promotes their image in the eyes of their customers [13]. However, the review of these 19 research papers indicated that the results of the empirical studies in this area were conflicted and mixed results, as presented in Table 1. Some studies reported that ISO 9001 has a significant impact on customer's issues [21], [24], [26], [1], while others found there is no significant relationship between this quality management standard and customer perspective in the organizations [17], [11], [4], [31]. This result is also consistent with view of Han et al. [4], who noted that it is not surprising to find from the studies that ISO 9001 standard efforts do not affect customer issues directly, because an organization which has ISO 9001, is often expected to promote customer's satisfaction and consistently provide product or service that meets customer and regulatory requirements [14], but in fact, it does not guarantee that ISO 9001 always improves quality performance of the organizations for satisfying customers [24]. Similarly, Neyestani & Juanzon [21] stated that the reasons of the majority of the construction companies for being an ISO 9001-certified firm are to become eligible in tendering of government and international projects, and also achieving its competitive advantages as a marketing tool. Thus, they often neglect to use ISO 9001 properly with the aim of obtaining performance excellence and its multiple advantages. Accordingly, ISO 9001 standard cannot promote to assist them to meet the expectations of their customers in long-term.

3.4. Impact of ISO 9001 on Innovation and Learning

According to Kaziliūnas [10] and Han et al. [4], ISO 9001 standard can assist the firm to realize well regarding the needs, requirements, behavior, and attitude of customers, which cause being more competitive. ISO 9001 affects organizational competitiveness, which in turn helps to improve business performance [4]. Likewise, the favorable view emphasizes that ISO 9001 promotes “employees’ awareness” in quality issues and encourages continuous improvement through regular and imperative quality audits. Thus, this standard generates a better employee and partner satisfaction results from employees' success in having opportunities for personal learning and practicing new skills [11]. In addition, the adoption of ISO 9001 standard yields visible advantages to the companies concerning increased employee's satisfaction [26]. But the outcomes of reviewing the existing literature regarding the impact of ISO 9001 on innovation and learning unearthed that the majority of the studies found this standard is not correlated with innovation and learning [15], [16], [17], [11], [1], while Sakka [26] and Han et al. [4] reported that the ISO 9001 was affected positively the innovation and learning at significant level.

Accordingly, ISO 9001 standard cannot promote innovation and learning in the organizations. Also, this finding is consistent with the opinion of Kaziliūnas [10], who justified ISO 9000 is not a flexible tool for implementing quality management in the organizations, and its emphasis is very low on employees' skills, innovation, and knowledge.

4. Conclusion

As mentioned, the main purpose of this paper was to identify the effectiveness of ISO 9001 on organization' performance. For this aim, a comprehensive literature review was carried out on the scholarly published studies, which investigated empirically the effects of ISO 9001 standard on the organization's performance in different sectors. Subsequently, the 19 empirical studies identified and selected carefully that were relevant to the objectives and criteria of the study with the aim of achieving the results and making conclusions. Based on the results of these empirical studies, the research discovered that the effects of ISO 9001 on the four main perspectives of organization's performance (BSC) were different. In general, the impact of ISO 9001 standard on organization's performance is inconsistent and unclear. Similarly, Martinez-Costa et al. [17] and Lushi [13] noted the relationship between ISO 9001 and firm's performance is more mixed compared with the relationship between TQM and organization's performance.

However, this paper was highlighted that ISO 9001 has an important role in improving production process (internal business performance) in ISO 9001-certified organizations. This outcome from literature review is also consistent with the studies of Kuo et al. [11]; Sun and Cheng [29], who realized that ISO 9001-certified
companies can often accomplish their internal business performance (production processes) better than non-certified, the reason is to practice more on “quality activities” and “process management”, in order to ensure the companies meet the customer’s requirements. While the results of this study indicated that ISO 9001 standard cannot be correlated with performance measures of innovation and learning, because ISO 9001 focuses more on production process issues than promoting the innovation and learning in the organizations [10]. Finally, the results of the previous empirical studies were unearthed that the effects of ISO 9001 standard on customer’s results and financial performance were inconclusive and unclear, because the ISO 9001-certified organizations with different quality management context have significantly different performance outcomes on the financial performance and customer results in different industries [10].

References


