ISO Certification and Financial Performance: A Review

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ABSTRACT

Achieving ISO certification is expensive and time consuming. The factors behind pursuing ISO certification are improved market share, lowered cost etc. which results in better performance. This study reviews ISO literature in context of USA to ascertain the relationship between the certification and firm performance.

Keywords: ISO Certification, benefits, financial performance

INTRODUCTION

In today’s competing environment, companies must add, comply, and change its business strategies to not only succeed, but sometimes survive the ever changing market conditions. Regardless of which industry sector, business strategy, or product a company possesses; a key measure for improving business performance is used--quality. It is the association between quality and price that customers will create the perception of product value and while price is a fixed parameter easily quantifiable by any customer; quality is much more subjective. In fact, what is perceived to be a quality item to one, may not be judged as a quality instrument by others. Consequently, creating standards for quality assessment and overall compliance is an important component of organizational management where many quality systems and principles are created so that a uniform, standardized method for quality control is established. These methods and systems are introduced based on standards (such as the International Organization for Standardization (ISO)) and/or conceptual theories such as Total Quality Management, Lean Manufacturing, Six Sigma, and others (Ismyrlis and Moschidis, 2015). Among these standards, perhaps none is more recognizable and disseminated throughout the world as the ISO family of standards.

While there are many ISO standards and each standard has multiple sets of principles and rules, a broad overview of ISO certification in the context of this research is needed to enhance later discussion. The ISO family of standards correspond to a set of general quality assurance principles that have been developed by the ISO independent committee in Geneva, Switzerland since 1947. In addition, ISO was one of the first organizations to take on the job of quality standardization in a macro perspective to reduce the gap of quality information between customer expectations and companies’ products.

There is no doubt about the ISO quality management system recognition internationally. In the latest ISO Survey of Certifications, the number of total certifications for all seven ISO management systems standards increased from 1,499,163 certifications in 2012 to 1,564,448 certifications in 2013 (ISO, 2013). As is the case of previous years, the number of certifications continue to grow on average 4% worldwide and its popularity shows that in many ways, the certification is a necessity to do business. Consequently, many industry sectors (such as the food processing industry) are required by government regulation to have the specific ISO certification while other industries view the ISO standards as necessities to compete with foreign companies in the ever competing global environment. The ISO Survey of 2013 also shows that in
the last year, three sectors (security management, food management, and medical devices) shows steady growth in ISO certification between 14 to 15 percent from the year before.

Although ISO certification is widely used, the research community is still ambiguous to its usefulness or potential benefits that post implementation of ISO 9000 can accomplish to the overall performance of the company. On one hand as contemporary research shows, the impact of ISO 9000 certification has been contradictory in nature showing positive and/or negative financial and organizational results depending on the multitude of factors studied in each particular research. Given that scholars in this area have extensive knowledge and years of experience in their fields of study, the question arises as to why is there such discrepancy between the findings in research that try to analyze the positive and/or negative impact of implementation of ISO 9000? Given the extensive use of ISO certifications throughout the world, it is vital that companies are able to access the financial impact of ISO in their respective companies. Unfortunately, no consensus about ISO certification and financial impact has yet been established, leaving the decision making process of whether or not to pursue the certification entirely substantiated on subjective measures.

With that in mind, this research paper will be designed in the format of a selected literature review of published, scholarly peer-reviewed journals in the last 10 years (2004–2014) that examine the direct financial impact (positive and/or negative) of ISO certification in USA. The purpose of this research paper is to present an aggregate overview of the relationship between ISO certification and financial performance. Also, since there are many ISO certifications depending on the industry and level of certification, this research will address the ISO certification as a whole, independently of the type of certification. In the end, this research paper will not only address the linkage between ISO and financial performance, but will also discuss a practical approach towards measuring ISO certification and financial performance.

**ISO CERTIFICATION AND FINANCIAL PERFORMANCE**

Despite ISO propagation across many countries and continued growth in the last few years, the real key issue is measuring the impact of ISO certification so that companies can clearly evaluate whether or not such expenditures were beneficial. The vast published ISO research varies in terms of establishing a framework and method to measure the impact of the certification. While some researchers use only financial criteria others include many other operational metrics; while some scholars use subjective data based on surveys others use secondary data stored in public domains; while some studies only deal with time-series data others use cross-sectional. As we can see, creating a consistent and effective way to measure the impact of ISO certification is extremely difficult and it depends mainly on the area of expertise of a particular researcher or one's inclination due to what he or she believes is the best approach. On one hand, some researchers affirm that the objectives to be measured in ISO certification cannot only be financial in nature and they should include all the operational and processes needed to show a comprehensive financial picture. On the other hand, some scholars argue that the only way to quantitatively, effectively measure the impact of ISO implementation is to measure its financial impact based on whether or not companies improved financial performance after the ISO certification. In this research, the latest approach (measuring only financial impact) is used because it restricts the amount of research undertaken, narrows the criteria, uses comparable measurable variables, diminishes subjective of intangible factors, and allows for better material and discussion.
The metrics used to evaluate ISO certification and financial performance must be addressed in the context of the material presented. The articles used in the literature review section were selected because they had similar methodology and assessment of how financial performance should be measured; creating a standardized field that facilitates the analysis and discussion. These studies measured financial performance either directly (through financial data manipulation) or indirectly (through secondary factors such as: market share, customer satisfaction, productivity, and others). In either case, the dependent variable "financial performance" was always addressed in terms of quantitative, measurable positive or negative results. The most popular measurements included by scholars were the directional changes in: Sales, Operating Income, Return on Assets (ROA), Return on Sales (ROS), and stock market valuation of firm's intangible assets. Nevertheless, most scholars who studied the relationship between ISO certification and financial performance agreed that either ISO improves firm's internal processes which consequently boosts performance through cost reductions; or ISO certification may help companies retain or increase market share which improves performance through sales increase.

**UNITED STATES**

Some scholars strongly defend the implementation of ISO in the United States due to finding that point out to increased financial performance of companies who implemented ISO certification versus those who did not. According to Corbett, Montes-Sancho, and Kirsch (2005), firms who were ISO 9000 certified experienced “significant increased financial performance three years after the certification” (p.1056). In their research, the authors combined data from all ISO 9000 certifications in the United States between 1987 and 1997 in the manufacturing sectors with Standard Industrial Classification (SIC) code 2000-3999. Consequently, a total of 7,598 companies were identified and 1,108 firms were used in the research due to control group selection criteria. They performed sensitivity analysis on certified versus non-certified companies and found that a company's implementation of ISO is associated with faster growth through reduction in costs that reflect a better return on assets (ROA) measurement. In other words, they implied that once firms seek ISO certification, they experience improved performance because they made changes in their quality management systems which increased productivity.

On the other hand, some American studies show evidence against ISO certification. As an example, Dunu and Ayokanmbi (2008) research indicated that there was evidence that revenues and operating income improved following ISO 9000 certification, but when the ratios of revenues to assets and operating income to assets were analyzed, these financial improvements disappeared demonstrating that the increase in revenues are not necessarily linked to ISO certification, but due to revenue-generating assets companies acquire as they grow. Also, when compared to non-certified companies, ISO certified organizations had the tendency of performing better but the differences were not statistically significant.

Likewise, in a different study conducted by Han, Chen, and Ebrahimpour (2007), the evidence found showed that ISO certification alone has no effect on performance. The authors tried to isolate the impact of ISO certification and TQM practices in relation to business performance. The method employed in their study was also based on a five-point Likert scale and the surveys were answered by quality managers responsible for ISO implementation in their respective companies. One of the conclusions of the research was that ISO certification in itself did not present any significant direct
positive relationship with business performance. In fact, just jumping in the band wagon of getting the ISO certification will not guarantee customer satisfaction and/or improvements in business performance. In the end, after presenting the findings of the relationship between ISO certification and TQM, Han et al. (2007) pointed out that ISO registration might be a first step to quality management and a powerful element of TQM. In other words, ISO certification alone does not impact business performance, but when used as a component of a comprehensive quality system, such as TQM in this case, then ISO certification will lead to a roadmap of organizational changes that can facilitate firm's financial benefits.

**DISCUSSION**

While the objective of this research is not to point out particular issues with research currently done, it is important to discuss the reasons why different results were found so that a common understand is established that can facilitate the development of a practical framework to help businesses in the decision making process of ISO certification.

First, most of these studies do not include the motivations for ISO certification which are the key drivers for further improvements and can cause companies' negative or positive results. In other words, as is in most activities we do regardless of the level of difficulty or value, it is the methodical planning envisioning a goal that allows us to benefit the most. If companies' motivations are not in line with the goals of ISO certification, or even worst, not in line with their own corporate goals; then ISO certification expenditure will not create benefits or these benefits will not justify its implementation. Unfortunately, studying companies' motivations for using.

ISO certification is an area that has not been accounted in detail by current research models that measure the financial impact of ISO. Without understanding and including the reasoning why companies decide to become certified, any research that tries to measure financial impact of ISO will not effectively answer the research questions because the data sample used will not be homogenous. Companies that have an inner motivation to become better using other quality tools such as TQM, Six Sigma, Lean Manufacturing, or any other continuous improvement methods as well as integrating all of its stakeholders into the system to improve operations; will most likely perform better than companies that only decide to be ISO certified for compliance, customer pressure, image improvement, or any other strategy that forces companies to use the ISO certification as solution for their problems rather than using the certification as a process for continuous improvement. In the studies included in the literature review, some mentioned that organization's goals towards ISO are extremely important, but none of these studies measured the degree of commitment or the level of subsequent quality management policies implemented once the certification was obtained.

In its core, the ISO family of standards are simple guidelines established so that companies can assess the initial stage of their quality management systems. Even researchers who vigorously preach the importance of ISO certification describe that ISO standards are extremely broad in nature and they represent the minimum requirements that firms should accomplish in order to be certified. In addition, these standards do not address a particular type of industry or a particular product because they lack technical development and specificity in language (Chatzoglou et al., 2015). Consequently, if the ISO standards are so broad in nature and not fundamentally developed to address particular industry's quality assessment; how can one make the argument that ISO certification has such positive, direct relationships with financial performance? In reality, the standards in themselves do not add value
directly to the company's bottom line; instead, it is the systems created around the standards that allow improvements to occur. Given the large number of published quality frameworks (e.g. TQM, Six Sigma, Just-in-time, and others) as well as the fact that many of these frameworks are modified based on particular firm's characteristics (e.g. Toyota Production System and Parker Hannifin's Motion Kaizen extension), these quality management systems vary wildly among companies. Hence, to affirm that ISO certification leads to improved financial performance is misleading because it is virtuously impossible to access how well companies implement and execute quality programs.

It is interesting to note that most of published research that associate ISO implementation with higher financial performance state that despite the statistical results showing the positive relationship, ISO in itself will not automatically help companies achieve higher performance.

Instead, they argue that firms need to go beyond the ISO standards and requirements to create a culture that embraces quality management through the use of other quality management tools. It is the secondary quality tools created after ISO implementation that will enhance financial performance. Therefore, if ISO certification is the starting point and it is the secondary factors (or lack of them) that will dictate the outcome of company financial performance, how can researchers still use ISO certification as the main criteria to determine financial performance? Shouldn't one defragment quality management systems entirely into subsets to better understand all the components in the system that allow improved financial performance rather than only differentiating into whether or not a company is certified?

Even though some researchers show evidence linking ISO certification with financial performance, there are too many limitations and differences among studies. First, each research measures different components of financial performance that are sometimes debated and contradicted. While some studies use pure financial data indicators (e.g. sales, COGS, ROA), others devise survey questions that try to capture the economic condition of the organization.

Regardless of variables used, we would still expect some level of similarity in the results indicating evidence towards whether or not ISO certification leads to improved financial performance. However, disagreement is not reached which creates suspicion about the research design. For example, during the model development, Starke el al. (2012) explain that "the metrics used to estimate firm performance were such that extraneous influences were likely to be minimal" (p. 980). Nevertheless, despite this affirmation, the authors only compared companies with themselves, before and after the certification, and disregarded the effect of major economic implications. In other words, the model designed was such that it compared a particular company at time X before and after the ISO certification, but it ignored how other non-certified companies performed during the same time. In addition, the research ignored other macroeconomic components that could have affected companies' financial performance. For example, depending on which of those years most of companies acquired the ISO certification, lower interest rates or an increased economic period could have skewed the finding of the research towards the assumption that it was the ISO certification, rather than an external event, that influenced gains in financial performance. In the end, without using a proxy (in this case, non ISO certified companies' financial performance growth rate) the results could have portrayed an inaccurate image of ISO effectiveness.

Another statement that must be discussed is the relationship between ISO certification and achieved competitive advantage. While researching the impact of ISO certification and financial performance, Starke et al. (2012) maintained that ISO certification improves quality which reduces the associated total cost of quality (prevention, appraisal, internal, and external failure cost) enabling
better financial performance; hence, creating "competitive advantage". While the purpose of this research is not to refute the findings and arguments of previously studies, it is important to fundamentally establish the foundations of the argument especially when difference of opinions on a particular term, in this case competitive advantage, arises. The complexity of the term competitive advantage can be explained with a closer look at Michael Porter's competitive advantage theory (1985). In a nutshell, Porter's theory explains that one must look for independent variables (the determinants of competitive advantage) at industry or even segment level for competitive advantage to occur (1985). Further, Porter defines these determinants as: (1) Factor conditions, (2) demand conditions, (3) related and supporting industries, and (4) firm strategy, structure, and rivalry. In addition, all of these determinants of competitive advantage will interact with each other and they must be aligned with the external environment surrounding the company for competitive advantage to occur. Only then, companies will develop strategies that can realize benefits (usually through innovations) in a large scale which in turn translates into competitive advantage. Consequently, the argument that ISO certification improves quality which reduces cost, and in turn creates a competitive advantage is not theoretically sound because it fails in two particular areas. First, quality itself is only a single component of one determinant of competitive advantage and it should not be generalized because if violates the theory presented. Second, due to the complexity of theoretical framework, competitive advantage should not be easily copied or replicated by competitors which ultimately fails the argument that ISO certification indirectly leads to competitive advantage. To say that ISO certification creates competitive advantage, directly or indirectly, is profoundly incorrect not only because it disregards theory, but also logic.

Currently, the majority of studies are centered on the ISO certification criteria while all the other components of quality management systems (which fundamentally improves financial performance) are not accounted into research models. It is evident that it would be an extremely hard task to accommodate the large number of variables that researchers would have to account for since many different quality management systems exist; however, I believe that currently, only differentiating based on whether or not a company is ISO certified as if this company would have all the systems and requirements in place to improve financial performance is not an accurate assessment of the situation. Also, the contradicting results found in today's literature do not add much value to practitioners and the general public trying to decide whether or not ISO certification should be pursued.

CONCLUSION

In the end, we must read between the lines to understand the real impact of ISO certification. I believe that financial performance of an organization should not be centered on ISO certification itself, but to the extent of subsequent practices (quality management systems, quality training, quality methodologies, and others) that are implemented before and after the certification. It is through the development of more complex capabilities and not simply the result of practice adoption that will generate benefits. Even scholars who associate ISO certification with abnormal financial performance admit that ISO alone is not the answer to a firm's quality quest. As an example, Corbett et al. (2005) explains that ISO 9000 is a qualifying rather than a compete criterion. In other words, ISO helps maintain rather than increasing profitability because it is hard to see how firms would derive competitive advantage from such a generic, public standard such as ISO. It is somewhat logical that
certification will produce different types of benefits to an organization because it requires a specific level of quality compliance; otherwise, the auditing committee would not grant the certification. Nevertheless, the same level of compliance could be achieve with pure corporate will power and attitude towards improving quality. Nowadays, with the dissemination of information and intellectual capabilities, quality management systems and business processes are replicated or adapted easily; begging the question: Why do we still need the ISO certification?

As we have seen in the literature review of this research, regardless of geography or research style, contemporary scholars who attempted to determine whether or not ISO certification will impact a firm's financial performance cannot agree because there are many variables impacting companies' financial outcome making the task extremely difficult. Also, different research methodologies ignore the cost component associated with ISO certification which distorts the actual impact of ISO. Thus, a more practical approach that treats ISO certification as an investment project must be used to evaluate its true financial impact. Given the generic nature of ISO, no competitive advantage will be achieved through its implementation.

Also, companies should evaluate the reasons why ISO is being pursued, estimate its financial costs and benefits, and carefully decide whether or not ISO certification can lead to financial gains to the organization. The merits of ISO certification are not in its acquisition, but in the subsequent components created to sustain the standards in the quality management system.

Therefore, even if ISO is not really needed to achieve a firm's strategic goals, companies should still utilize the ISO model (not the certification itself) as a benchmark to access its quality programs. By doing so, companies would save money associated with ISO certification and still have an ongoing method to test the effectiveness of its quality standards.

REFERENCES


