IMPACT ASSESSMENT OF ISO CERTIFICATION ON FINANCIAL PERFORMANCE OF FIRMS IN PAKISTAN

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Abstract

Quality management has become the basic requirement of organizations for both survivals as well as to gain competitive edge in the market. This study has been undertaken to investigate the impact of ISO certification on overall financial performance of companies. In this regard data has been collected from quality management staff of 50 companies. A total of 100 filled questionnaires were received and the data was analyzed in SPSS 18. The multiple correlation and Linear Regression tests have been performed to analyze the data. The results indicated that ISO adoption leads towards marketing and operations efficiencies and ultimately, the overall financial position of business gets improved. However, the marketing efficiencies have greater impact on financial performance than the operations efficiency.

Keywords: ISO Adoption, Financial Performance, Operational Efficiency, Marketing Efficiency

Introduction:

Quality in business operations has gained increased importance since last three decades. The increase in global competition has forced the organizations to produce high quality products and make continuous improvements to survive. Now, the firms are focusing more on quality instead of price (Khalid et al., 2014). The concepts of quality got recognition from the quality gurus including: Crosby (1979), Deming (1985), Juran (1980), Feigenbaum (1988), Taguchi, Ishikawa (1985), Grococock (1986), and others. The history of ISO certification dates back to
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World War II when the defense department of US refused to accept the weapons as they did not meet the department’s quality requirement (Khalid et al., 2014). This was the first refusal based on quality. Soon after this refusal, the researchers as well as the firms started focusing it. According to Emeka et al. (2008) “ISO 9000 is designed to provide a basis for establishing, documenting and maintaining a consistent and demonstrable quality assurance system.”

ISO 9000 standards are widely used by many firms and are perceived by many customers as synonymous of quality (Singh et al., 2006; Pina et al., 2008). They provide a shift in paradigm of management philosophy to improve the organizational effectiveness. In order to improve the quality of the organizational processes, ISO standards involve everyone from employees to customers (Poksinska et al., 2006; Okey and Semiz, 2010).

Despite ISO proliferation across many countries, the main concern is evaluating the impact of ISO certification so that companies can measure whether or not such expenditures were valuable (Karim and Bingi, 2015). Talib et al. (2011) have found that there is significant relationship among the quality practices and increased organization’s performance. In order to achieve competitive edge and customer satisfaction in today’s violent competitive world, quality is vibrant to all organizations. The ISO 9000 also plays a vital role in establishing trustworthiness in the exporting environment. With the ISO certification status, the customers are guaranteed of consistent quality of products and services they receive. It plays vital role in improving the financial performance of the business so, the firms should preferably pursue it. It increases both the local and foreign sales revenues (Khalid et al., 2014).

In past, though, the researchers have tried to investigate the impact of ISO certification on organizational performance, yet the studies have provided limited information on the topic. It is because the researches have mostly used survey method to research the impact of quality
management on business. However, the surveys may provide biased results based solely upon the perception of the respondents (Morris, 2003). Also, there are doubts about the overall increase in financial performance of firms due to implementation of ISO standards. Specifically, it is perceived that, though, there is an overall improvement long term revenues may not be guaranteed (Gotzamani et al., 2006).

The purpose of this study is to highlight the importance of getting ISO Certification for the firms. Though, a great deal of research has been done on ISO certification and its potential benefits but the specific impact on financial performance of business has been less highlighted in literature (Khalid et al., 2014; Boiral and Roy, 2007; Heras et al., 2002). This study will help the organizations to understand the potential benefits of ISO certification specifically the financial benefits a firm can gain. It will also serve the important cause of quality products for customers as the firms after realizing the important benefits of ISO certification will definitely go to get it. Thus, the contributions of this study are manifold. This research has focused the following research question during the course of study:

1. Does ISO certification have an impact on financial performance of business?

In order to answer the above mentioned research question following objectives have been developed:

- To check whether there is any relationship between customer demand and ISO certification of a firm.
- To check whether the operational efficiency of the firm is increased through IS certification.
- To investigate whether ISO certification creates quality awareness or not.
- To sought out whether ISO certification increase productivity of the firm or not
- To check whether ISO certification increases the profitability of the business or not
The scope of this research is very wide. The findings of this study could be used by all firms of all sizes and belonging to any sector. It can also be used by international organizations to improve their processes and enhance their profitability through ISO certification.
Literature Review:

The debate on ISO certification in literature started at the end of 1980s. Various researchers have tried to find link between ISO certification and performance of firms including financial performance. As the studies of Dick et al. (2008), Lima et al. (2000) and Martinez-Costa et al. (2009) have reported a significant positive relationship between ISO certification and financial performance. However, some of the studies have also revealed negative impact of ISO certification on Financial performance (Aarts and Vos, 2001), while there are studies which reported no significant relationship between these two (Dick et al., 2008; Martínez Costa et al., 2009; Sila, 2007).

Now the question is that how these standards lead to higher financial performances of the firms? The researchers have investigated the answer. According to Benner and Veloso (2008) and Sharma (2005) there are two explanations of this positive relationship. The first explanation says that increased performance is a result of internal developments as certification leads to learning and development of employees and consequently the motivation. The second explanation says that improvement is a function of external developments. The firms seeking increased profitability concentrates on competitive advantage through fulfilling customer’s expectations, contractual requirements, public procurement policies and legislations (Terziiovski et al., 2003). It all leads towards certification. The ISO 9000 certification helps to distinguish reliable and better quality products from the others. Hence, it leads to gain competitive advantage over competitors and consequently to higher profits (Terlaak and King, 2006). It has been observed that the firms which are internally motivated to implement ISO standards, gain maximum benefits (Yahya and Goh, 2001; Poksinska et al., 2006; Boiral and Roy, 2007; Sampaio et al., 2009). In another study Biazzo and Bernardi (2003) confirm that if a firm is seeking to improve processes and products, they manage not only these improvements but also
gain many other advantages. In a study, Lafuente et al. (2009) found that (ISO) 9000 certification has a positive impact on performance of firms in terms of greater return on assets and increased labour productivity. It also enhances the competition. Calisir et al. (2005) conducted a research on 43 companies of textile sector of Turkey and concluded that ISO certification has positive impact on firm’s performance. Sun (2000) says that on the whole, ISO certified firms have reduced errors and production costs. Consequently, there are lesser customer complaints and increased sales. Douglas et al. (2003) concluded after a survey of more than 100 firms that 75% of the firms consider it as a good return of their money. Kawthar and Vinesh (2011) carried out Ttest and Regression analysis to investigate the impact of ISO certification on financial performance in terms of Sales and Profits. They concluded that it has positive impact on sales through customer loyalty and confidence. The studies have revealed that ISO certification leads to higher financial returns, however, direct relationship of these two variables have not been proven; consequently, many managers think it as useless and consider it as a financial burden and time consuming (Corbett et al., 2005; Dick, 2000, Heras et al., 2002; Van der wiele, 2005).

However, the motives behind the implementation of ISO certification differ with the size of organization. Small companies are more concerned with the cost and time of implementation as their revenues are not significant. But the managers do not put pressure to follow it strictly. Such organizations follow ISO standards only to create better reputation in the eyes of customers i.e. to increase customer’s demand (Sun and Cheng, 2002; Boiral, 2003; Chow-Chua et al., 2003; Stalhane, 2006). On the other hand, the large size organizations implement ISO to achieve cost reduction. Thus the reasons for implementation of ISO are internal for small size organizations and there are external motives in case of large size
The decision to implement ISO standard is purely correlated with size of organizations (McAdam and Canning, 2001; Zaramdini, 2007; Kostagiolas and Kitsiou, 2008).

The researchers are also confused as to what makes up the financials of any business which should be judged to analyze the impact of ISO certification. Sharma (2005) has proposed three main dimensions for this purpose including: increased sales, increased profit margin and the earnings per share of the business. Later, Corbett et al. (2005) confirmed the findings of Sharma (2005). They made a survey in United States and tested that the firms implementing ISO standards have better ROA (Return On Assets), ROS(Return on Sales) and lower Cost to Sales ratio which consequently led to improved financial performance as a whole. Some recent studies have investigated that increase in overall financial performance becomes possible due to improvement in stock prices (Aarts and Vos, 2001; Boiral, 2003; Sharma, 2005; Ferreira et al., 2008; McGuire and Dilts, 2008). Benner and Veloso (2008) have however presented a different finding. They argued that it is the belief of investors actually (that ISO implementation will increase their returns) leads to improve stock prices. Ebrahim, Whiter and Hikmet (2004) also provided the similar results and provide three dimensions of the ISO benefits which include: “increase in market share, improving process efficiency and meeting the customer requirements”. Bayati and Taghavi (2007) conducted a research on SME sector to check the impact of ISO certification on financial performance of companies. He selected 81 certified SMEs and concluded that it has positive impact on performance of companies. Another research of Malik et al. (2010) also confirms that ISO certified SMEs perform better than non-certified SMEs. Abdullah et al. (2012) collected the data of 91 Malaysian SMEs and reported significant relationship between ISO certification and SME business performance and it is a source to attract more customers.
In Pakistan, various studies have been conducted to check the impact of ISO certification on business performance. As Shafiq et al. (2014) conducted their survey on textile sector of Pakistan and concluded that ISO 9000 certification leads to better performance as per the opinion of business managers of textile companies in Pakistan. Saleem et al. (2011) conducted their research on SME sector of Pakistan. They examined the management responsibility, product realization, documentation requirements of quality management system, resource management measurement analysis and improvement. The results of their study show that there is positive impact of ISO certification on organizational performance. The study of Khalid et al. (2014) divided the firms into ISO certified and non-certified and compared their financial results. At the end they concluded that ISO certified firms have greater profitability than non-certified firms.

From the literature of this study the following hypotheses have been constructed:

H1. There is a strong relationship between customer’s demand and obtaining ISO 9000 certification by a firm (Ferreira et al., 2008).

H2. A firm can improve operation efficiency, and therefore, gain intangible benefits:
   H2a. ISO 9000 certification can create quality awareness (Terziovski et al., 2003; Sharma, 2005)
   H2b. ISO 9000 certification can increase productivity (Chua et al., 2003; Terziovski et al., 2003; Sharma, 2005).
   H2c. With ISO 9000 adoption, operations can be executed easier (Terziovski et al., 2003; Sharma, 2005).

H3. A firm can achieve market efficiency improvement after ISO 9000 adoption:
   H3a. ISO 9000 certification enlarges the market share of a company (Casadesus and Gimenez, 2000; Chua et al., 2003; Terziovski et al., 2003; Sharma, 2005).
   H3b. ISO 9000 certification can improve customers’ satisfaction (Casadesus and Gimenez, 2000; Terziovski et al., 2003; Sharma, 2005).
   H3c. ISO 9000 certification can increase sales revenue (Casadesus and Gimenez, 2000; Terziovski et al., 2003; Sharma, 2005).

H4. There is a positive relation between ISO certification and overall financial performance (Sun, 2000; Sharma, 2005; Veloso, 2008).
Research Methodology:

The sample of this study consists of 40 certified companies from different sectors. The questionnaires were distributed among 120 members of quality management department of the selected companies and received back complete 100 questionnaires with a response rate of approximately 83%. This study contains a mix a two sampling techniques: stratified sampling and convenience sampling technique. First of all, the total certified companies have been found in different sectors or industries called strata and then out of these sector companies were selected on the basis of personal contacts with management of selected organization. It speeded up the data collection process. This study has also opted to use the path of majority of the researchers. This study has used structured questionnaire and interview to collect the information of various quality managers of different firms. All the questions have been measured at a 5 point likert scale ranging from 1 – strongly disagree to 5 – strongly agree. Questions 5, 8, 9, 10, 12, 18 and 20 have been taken from Carr et al (1997). Questions 1, 2, 3, 4, 7, 11, 14, 17, 21, 25, 26 from Martinez-Costa et al. (2008), Questions 13, 26, 27, 28, 29 are from Stahlane (2006), Questions 6, 16, 19, 22, 23, 24 from Powell (1995), and finally question 15 is from Terzirovski et al. (1997). A complete questionnaire has been provided at the end of thesis in appendix section. The current research has used SPSS (Statistical Package for Social Sciences) for the analysis of data. Descriptive statistics, regression and correlation have been performed on the data.
Conceptual Framework:

Using the above mentioned hypotheses, the following research model has been drawn:

*Figure 1: Theoretical Model of the Study*
Results and Analysis:

It has already been mentioned that companies from all sectors have been selected for the analysis purpose. Thus, the sample included all types of firms both small and large. There are a total of ISO 9001 certified companies in Pakistan till 2015. The reliability of scales was measured using the value of Cronbach’s alpha whereas the validity of constructs was confirmed using the Kaiser-Meyer-Olkin (KMO) measure and the Bartlett’s Test of Sphericity were used. As a standard the value of Cronbach’s Alpha should be greater than 0.7 to confirm construct reliability. The value of Cronbach’s Alpha is greater than 0.5 for all the constructs fulfilling the threshold requirement of reliability. The overall reliability of the scale is 0.881 which indicates that the scale is very reliable. After proving for the reliability of scale, the validity was measured using the value of KMO. The value of KMO for different constructs is 0.50, 0.50, 0.67, 0.69, 0.66, 0.58, 0.64, 0.56 and 0.51 for ISO adoption, customer’s demand, quality awareness, increased productivity, operations execution, customer’s satisfaction, sales revenue, market share and overall financial performance respectively. Also, the Bartlett’s test shows that all the results are significant. Thus, the validity of constructs has also been confirmed.

Correlation Analysis:

Pearson’s multiple correlation test has been performed to check the strength of relationship between different variables of study. These are shown in Table 3 as under:

<table>
<thead>
<tr>
<th></th>
<th>Operations Execution</th>
<th>Customer Satisfaction</th>
<th>Market Share</th>
<th>ISO Adoption</th>
<th>Sales Revenues</th>
<th>Increased Productivity</th>
<th>Quality Awareness</th>
<th>Customer’s Demand</th>
<th>Financial Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Execution</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.17*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Share</td>
<td>-0.029</td>
<td>0.19**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO Adoption</td>
<td>0.41***</td>
<td>0.44***</td>
<td>0.095</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales Revenues</td>
<td>0.062</td>
<td>0.525***</td>
<td>0.326***</td>
<td>0.633***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Table 3: Multiple Correlations

Table 3 shows that operations execution has a significant weak relationship with quality awareness and customer satisfaction whereas significant moderate relationship with ISO adoption as the values of correlation are 0.258 and 0.17 for first two variables and 0.41 for ISO adoption. Its correlation with rest of the variables is insignificant. Customer satisfaction has weak significant relationship with market share and overall financial performance of firms as the value of r is 0.19 and 0.265 respectively. It has moderate significant relationship with market share (r = 0.525, sig > 0.01) and ISO adoption (r= 0.44, sig. > 0.01) and strong relationship with quality awareness (r = 0.653, sig. > 0.01) and customer’s demand (r = 0.701, sig. > 0.01) whereas there is statistically insignificant relationship between sales revenues and rest of the variables. Market share has weak relationship with all the variables of the study except for increased productivity and overall financial performance where the relationship is strong as the value of r = 0.607 and 0.725 respectively at a level of significance of 0.01 and for ISO adoption where the relationship is insignificant.

The ISO adoption has strong relationship with customer’s satisfaction (r = 0.633, sig. > 0.01) moderate with quality awareness (r = 0.508, sig. > 0.01) and customer’s demand (r = 0.403, sig. > 0.01) and weak (r = 0.224, sig > 0.05) with increased productivity and overall financial performance (r = 0.186, sig. > 0.001). customer’s satisfaction has weak significant relationship with increased productivity (r = 0.35, sig. > 0.001) and overall financial performance (r = 0.375,
and moderate with quality awareness (r = 0.52, sig. > 0.001) and customer’s demand (r = 0.504, sig. > 0.001). The variable of increased productivity has weak relationship with quality awareness (r = 0.33, sig. > 0.01) and customer’s demand (0.276, sig. > 0.01) and strong with (r = 0.63, sig. > 0.001) while there is significantly strong relationship between quality awareness and customer’s demand (r = 0.723, sig. > 0.01). Finally, overall financial performance is weakly correlated with quality awareness (r = 0.394, sig. > 0.001) and customer’s demand (r = 0.334, sig. > 0.001)

**Linear Regression:**

In order to measure the impact of different variables of the study on the others, linear Regression model has been applied on data. The results have been shown in table 4 as under:

<table>
<thead>
<tr>
<th></th>
<th>Beta</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer's Demand--&gt; ISO Adoption</td>
<td>0.404</td>
<td>0.000</td>
</tr>
<tr>
<td>ISO Adoption --&gt; Marketing Efficiency</td>
<td>0.525</td>
<td>0.000</td>
</tr>
<tr>
<td>ISO Adoption --&gt; Operations Efficiency</td>
<td>0.553</td>
<td>0.000</td>
</tr>
<tr>
<td>ISO Adoption -- &gt; Quality Awareness</td>
<td>0.508</td>
<td>0.000</td>
</tr>
<tr>
<td>ISO Adoption -- &gt; Increased Productivity</td>
<td>0.225</td>
<td>0.000</td>
</tr>
<tr>
<td>ISO Adoption -- &gt; Customer Satisfaction</td>
<td>0.634</td>
<td>0.000</td>
</tr>
<tr>
<td>ISO Adoption -- &gt; Market Share</td>
<td>0.163</td>
<td>0.000</td>
</tr>
<tr>
<td>ISO Adoption -- &gt; Operations Execution</td>
<td>0.411</td>
<td>0.000</td>
</tr>
<tr>
<td>ISO Adoption -- &gt; Sales Revenues</td>
<td>0.441</td>
<td>0.000</td>
</tr>
<tr>
<td>Marketing Efficiency --&gt; Overall Financial Performance</td>
<td>0.434</td>
<td>0.000</td>
</tr>
<tr>
<td>Operational Efficiency ---&gt; Overall Financial Performance</td>
<td>0.231</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*Table 4: Linear Regression*

The first result of the table shows significant positive impact of customer’s demand on ISO adoption as the value of regression coefficient beta is 0.404 at a level of significance of 0.001, while ISO adoption has strong positive impact on marketing efficiency (b = 0.525, sig. > 0.001) and operations efficiency (b = 0.553, sig. > 0.001). The impact of ISO on all variables of marketing efficiency and operations efficiency can be studied separately as shown in Table 4. It is positively influencing customer’s satisfaction (b = 0.634, sig. > 0.001), market share (b =
0.163, sig. > 0.001), sales revenues (b = 0.44, sig. > 0.001), operations execution (b = 0.411, sig. > 0.001), increased productivity (b = 0.225, sig. > 0.001) and quality awareness (b = 0.508, sig. > 0.001). Furthermore, Marketing efficiency has a significant positive impact on overall financial performance (b = 0.434, sig. > 0.001) whereas operations efficiency also influences the financial performance (b = 0.231, sig. > 0.001) of the firms under study but its impact is lesser than marketing efficiency.

The results have shown that customer’s demand positively influences the decision to adopt ISO certification. It means that demand of customer is a positive motivation to go for ISO certification as per the management’s point of view. Thus the first hypothesis of the study is accepted i.e. there is a strong relationship between customer’s demand and obtaining ISO 9000 certification by a firm. This result is consistent with the researches of (Stevenson and Barnes, 2001; Biazzo and Bernardi; 2003, Boiral, 2003; Douglas et al., 2003)

ISO adoption has a significant effect on marketing efficiency and operations efficiency. It means that with the adoption of ISO certification, the marketing as well as operations efficiency of the firms gets improved which is a good sign. The firms are encouraged to adopt ISO standards in order to improve their performances. Thus, the H2 and H3 are accepted i.e. A firm can improve operation efficiency, and therefore, gain intangible benefits and A firm can achieve market efficiency improvement after ISO 9000 adoption. This result is consistent with the researches of (Terziovski et al., 2003; Bendell and Boulter, 2004; McGuire and Dilts, 2008).

The results also have shown that there is positive impact of ISO adoption on all variables of marketing efficiency but the magnitude of impact is different. It influences the customer satisfaction with a high rate of 0.634 while moderately the variable of sales revenues and slightly the market share as per the opinion of quality managers. It means that ISO certification leads to greater customer satisfaction, as a result of it, the sales of the company increases and finally, the market share also increases. It is an important finding and has greater implication for firms. So, the sub hypothesis of H2 are also accepted i.e. ISO 9000 certification enlarges the market share of a company, ISO 9000 certification can improve customers’ satisfaction and ISO 9000 certification can increase sales revenue. These results are consistent with the studies conducted by (Chua et al., 2003; Sharma 2005; Benner and Veloso, 2008).
Furthermore ISO adoption leads to create quality awareness greatly, the operation execution also gets boost and productivity of the firms increases. This is all logical. The impact of ISO certification is greater on quality awareness and lesser on operations execution and increased productivity. However, it is significant in all cases. Thus all the sub hypothesis of H3 are accepted i.e. ISO 9000 certification can create quality awareness, ISO 9000 certification can increase productivity and With ISO 9000 adoption, operations can be executed easier. The results are consistent with the researches of (Terziovski et al., 2003; Sharma, 2005).

Both marketing efficiency and operations efficiency have a great impact on overall financial performance of firms. It shows that both the variables positively influences the financial performance, however, the impact of marketing efficiency is greater than operations efficiency. It is consistent with the prior studies of (Sun, 2000; Sharma, 2005; Veloso, 2008; Caro and Garcia, 2009). Thus the final hypothesis of the study is also accepted i.e. there is a positive relation between ISO certification and overall financial performance.

The overall model shows that customer’s demand is a great motivation behind ISO adoption and with the adoption of ISO standards, the operations efficiency as well as marketing efficiencies increase through easier operations execution, increased productivity, quality awareness and customer satisfaction, market share, sales revenues respectively. It also shows that the greatest impact of ISO certification is on customer satisfaction. This finding is also consistent with previous literature that the result of ISO adoption depends upon its motive.

**Conclusion:**

This study was undertaken to make an assessment of the impact of ISO certification on overall financial performance of firms in Pakistan. It has adopted a different methodology to check this impact. Instead of collecting financial data and its analysis, it has collected data with the help of questionnaire from quality management staff of the selected firms. The study revealed that customer’s demand positively influences the decision of ISO certification. The ISO standards once adopted leads to many benefits both marketing and operational for the business. Consequently, the overall financial performance of firms improves. Thus, the findings of the study are very practical and have greater implications for businesses.
This study has made important contribution to literature and studied the impact of ISO certification on overall financial performance of firms differently, yet, like all other studies, it also contains certain limitations. The study is based upon a selected sample which could not cover maximum population. The results of the study are based upon the opinion of quality management staff even relating to financial performance and no relation has been made with actual financial figures, so, the results are more general.

This study opens horizons for many future researches. In this regard a comparative study can be made on impact of ISO certification on financial performance of different sectors. Another research can be conducted make link the operational and marketing efficiency with actual financial figures. Study could also be undertaken to make cross country comparison on benefits of ISO certification.

References:


