

IMPLEMENTATION OF QUALITY MANAGEMENT SYSTEMS AND BUSINESS EXCELLENCE FRAMEWORKS IN PAKISTANI TEXTILE COMPANIES

M. Shafiq

*Institute of Quality & Technology Management,
University of the Punjab, Lahore.*

ABSTRACT

This paper discusses the implementation of quality management systems and business excellence models in the textile companies of Pakistan. The literature indicates that Pakistani companies are falling far behind in comparison to their international competitors in the dimensions of competitiveness like timely delivery, consistency, reliability, innovation and quality. However, higher level of adoption of quality management systems and business excellence models can help the organisations to improve their competitiveness and performance. In this study data was collected from two hundred and ten textile companies which were the member of All Pakistan Textile Mills Association (APTMA) and located in the province of Punjab. The findings of this study indicate that only ISO 9000 Quality Management System was widely adopted by the sample companies whereas the other models like EFQM Excellence Model, MBNQA, ISO 14001, SA 8000 and Six Sigma are not given much importance. The sample companies need to move beyond the adoption of ISO 9000 in order to achieve higher levels of performance and competitiveness in the international market.

Keywords: *ISO 9000, Quality Management System, Pakistani textile sector, TQM, Quality Management, Global Competitiveness*

1) INTRODUCTION

Textile industry is considered as the backbone of the country's economy. However, after the World Trade Organisation (WTO) regime this sector is facing fierce competition in the international market. These companies are not performing up to the mark in comparison to their competitors in the dimensions of competitiveness like timely delivery, consistency, reliability, innovation and quality.

The proponent of Total Quality Management (TQM) approach like Deming, Crosby and Juran advocated that implementation of quality management philosophy helps the companies to achieve the higher levels of quality and performance. For example, Deming (1986, p.1) asserts, "Productivity increases with improvement of quality. Low quality means high cost and loss of competitive position". Similarly, Crosby (1980, p.1) states, "if you concentrate on making quality certain, you can probably increase your profit by an amount equal to 5% to 10% of your sales". Hendricks and Singhal (1999) provide empirical evidence from six hundred quality award winning companies located in the USA that TQM implementation has a positive effect on organisational performance. They indicate that the award winning companies have a much better performance compared to non-award winning companies, in terms of operating income, total sales, total assets, return on sales and return on assets. Similarly, Masakure, Henson and Cranfield (2009) conducted research in the textile sector of Pakistan; they claim that export performance is positively associated with certification of ISO 9000. Martinez-Costa, Choi and Martinez (2009), Terziovski and Power (2007), and Curkovic and Pagell (1999) also reported that certification to quality management systems enhances the organisational performance and competitiveness of the organisations.

On the other hand, the review of literature indicates that very little effort has been made to investigate the implementation of quality and excellence initiatives in the textile sector of Pakistan. Only a few studies like Hussain, Akhtar and Butt (2009), Masakure, Henson and Cranfield (2009) and Fatima and Ahmed (2006) are available which give limited information about the adoption of quality and excellence concepts in Pakistani textile industries. Furthermore, the existing literature does not give any comprehensive information about the use of quality and excellence frameworks in Pakistan.

Therefore, this article will investigate the level of adoption of quality management and business excellence systems and models in the textile companies of Pakistan. This will indirectly highlight the level of implementation of quality and excellence concepts in the sample companies.

2) LITERATURE REVIEW

This section provides the generic overview of Pakistani textile industry, its competitiveness in the international market followed by the discussion on the relationship of performance with the implementation of quality concepts.

Textile is the largest manufacturing sector of Pakistan, contributing about 60% to total exports. It accounts for 46% of total manufacturing and employs 38% of the total workforce in the manufacturing sector. The entire range of textile products is produced in Pakistan. These products are being produced on both the large scale and in cottage or small & medium units. The Pakistani large-scale textile processing industry can be categorised into spinning, weaving, processing (bleaching, dyeing, printing and finishing), garment and made ups. Spinning is the oldest and well established sector. It currently consists of 521 textile units (50 composite units and 471 spinning units) with 10.1 million spindles and 114,000 rotors in operation, with capacity utilization of 89% and 60% respectively during the period July 2010 to March 2011 (Pakistan Economic Survey, 2010-11). Pakistan's spinning capacity is 5% of the total world capacity and 7.6% of Asia capacity (Textile Vision, 2005). According to SMEDA (2011), the spinning industry has shown considerable growth since the removal of the quota regime compared to its main competitors, India and China. The majority of textile units (71%) are installed in the province of Punjab. Textile Vision (2005) shows that all counts of yarn are manufactured by Pakistani spinning industries however, the majority of companies manufacture coarse and medium count yarn. Only a few companies are involved in the manufacturing of fine and super fine count yarn.

According to Textile Vision (2005, p. 190) the processing sector in Pakistan started to grow from 1978. Currently there are 601 textile processing units. The majority of these units are independent commercial dyeing, printing and finishing units. Only a few are the part of the integrated mill sector. About 50% of the installed capacity of the processing industry is more than fifteen years old. According to Pakistan Economic Survey (2010-11, p.41), the highest growth in 2010-11 was in readymade garments (37.75%) followed by hosiery knitwear (32.71%). SMEDA (2011) indicates

that 70% of garment manufacturing units are in the unorganised or non-mill sector. Therefore, this sector has low productivity.

According to Pakistan Economic Survey (2010-11, p. 39), the value of total textiles in 2010-11 was increased by 29.92%. Similarly, there is an increase of 26.5% in exports for the same period. Synthetic textiles are also flourishing in Pakistan. There was a 52.30% increase in synthetic textiles in 2010-11 compared to 2009-10. These are all very positive signs for the Pakistani textile sector. However, currently Pakistani textile exports are subjected to anti-dumping investigations, which create uncertainty and demoralize the business community. Pakistan's bed linen exports to the European Union are still being levied with 13.1% anti-dumping duty (SMEDA, 2011).

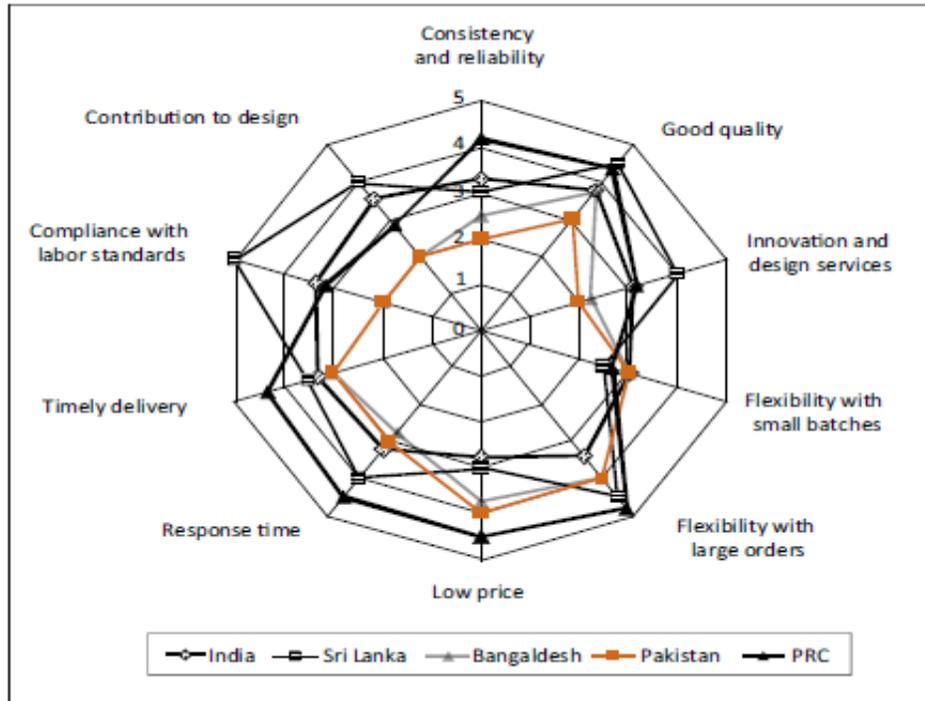
Globalisation is an inevitable phenomenon. It is no longer an option, but a fact whether one likes it or not. Countries like Pakistan have to manage their economies skilfully, to face the global crosscurrents. Due to the World Trade Organisation (WTO) regime, quota restrictions have been abolished and now trade is governed by General Agreement on Trade and Tariff (GATT) principles. Before the enforcement of the WTO regime, quotas for the developing countries restricted the textile trade. This was one of the reasons that countries like Pakistan were unable to access larger markets. However, the dismantling of the quota regime has initiated open and stiff competition in the international market (Raza, 2007).

Pakistan produces a variety of textile products, which are exported to other countries. Among these products, Pakistan is one of the leading exporters of cotton yarn. According to Textile Vision (2005), Pakistan was the biggest cotton yarn exporter in the world until 1996. However, in 2006, its share of cotton yarn export was 32.8% and cloth was just 8.1% (APTMA, 2011). Thus the export level of yarn was much higher compared to cloth. Ideally, the export level of cloth should be higher than that of yarn. However, the latest figures show that there are very significant improvements in the export of readymade garments and hosiery in 2010-11. This shows that the Pakistani textile industry has started to move in a positive direction.

According to Raza (2007), the fibre quality of Pakistani cotton is better than Chinese or Indian. It is also better in dye, shine, lustre and uniformity. Sixty percent of Pakistani cotton can be categorised as

medium-long staple, 37% medium staple, and 3% long staple. The bulk of world production presently ranges between medium-to-medium-long staple, so Pakistan can enter into this market with confidence. The lower count cotton is normally used in the production of towels, bed-sheets and cotton apparel. The third world is the biggest market for such types of product. This might be one of the potential areas for the Pakistani textile industry to grow in future.

Figure 1: A Comparison of the Characteristics of Pakistani Textile to the other competitors in South Asia and China



Source: Study on intraregional trade and investment in South Asia, (Asian Development Bank, 2009)

Currently, the Pakistani textile industry is facing serious challenges from China, Bangladesh and India. These countries are much more competitive in the quality and price than textile products from Pakistan (Asian Development Bank, 2009).

The Asian Development Bank conducted a survey between late 2006 and early 2007 with the help of the Indian Council for Research International Economic Relations (ICRIER). The data for this study was collected from

interviews with buyers, representatives of departmental stores, giant discount chains, branded merchandisers and buying houses and intermediaries from all over the world. They were asked to rate the textile products of Pakistan, India, Bangladesh and Sri Lanka on ten key dimensions of competitiveness. The findings of this study indicate that Pakistani textile companies have an advantage over their competitors in terms of price and scale. However, they are not competitive enough on product dimensions like product design, innovation, quality, and consistency and reliability.

All of the respondents accepted that Pakistani textile products, especially bed linen and home furnishings, are always preferred. Pakistani textile companies have an advantage over their competitors because of having high-quality fabric, in large volumes and in a broad gauge width. Pakistan also has better printing technologies than its competitors (Asian Development Bank, 2009). The details of the findings of this study are shown in Figure 1. On all of the dimensions but one (labour standards), China outperforms all other countries.

Now the question is how Pakistani textile companies can improve their performance? Khan (2003) mentions that considering the current competitive situation the development of the quality culture and a customer-centred approach is crucial for Pakistani businesses. Similar suggestions are given in the **Pakistan Economic Survey (2008-09**, p.43) that improvement in the quality and reliability of products, building of image and significant change in the business philosophy is imperative for the textile industry of Pakistan. Masakure, Henson and Cranfield (2009) provide the empirical evidence that export performance is positively associated with ISO 9000 certification, establishing the credibility of textile companies in the exporting environment. Similarly, Fatima and Ahmed (2006) show that quality control and quality assurance are significantly associated with the rejection rate. As both studies were conducted in the context of Pakistani textiles, the research strengthens the argument that the implementation of quality practices might improve the performance of Pakistani textile companies.

Many other empirical studies in the other parts of the world also indicate that implementation of quality management systems (Martinez-Costa, Choi and Martinez, 2009; Terziovski and Power, 2007; and Curkovic and Pagell, 1999) and excellence models (Hendricks and Singhal, 1999) helps

the organisations to achieve higher levels of performance and competitiveness.

The above literature indicates that if the textile companies in Pakistan want to improve their performance and competitiveness in the international market, they need to adopt the latest concepts of quality and excellence.

3) METHODOLOGY

In this study the use of different quality and excellence models are considered as the proxy for the implementation of quality and excellence concepts. As Tari (2005) described that many firms use these models and frameworks as a guide for the implementation of TQM or to carryout self-assessment of their quality management system. Among these models and frameworks the Malcolm Baldrige National Quality Award model, EFQM excellence model, Deming Application Prize, and ISO 9000 are the most significant frameworks.

Population and Sample Size

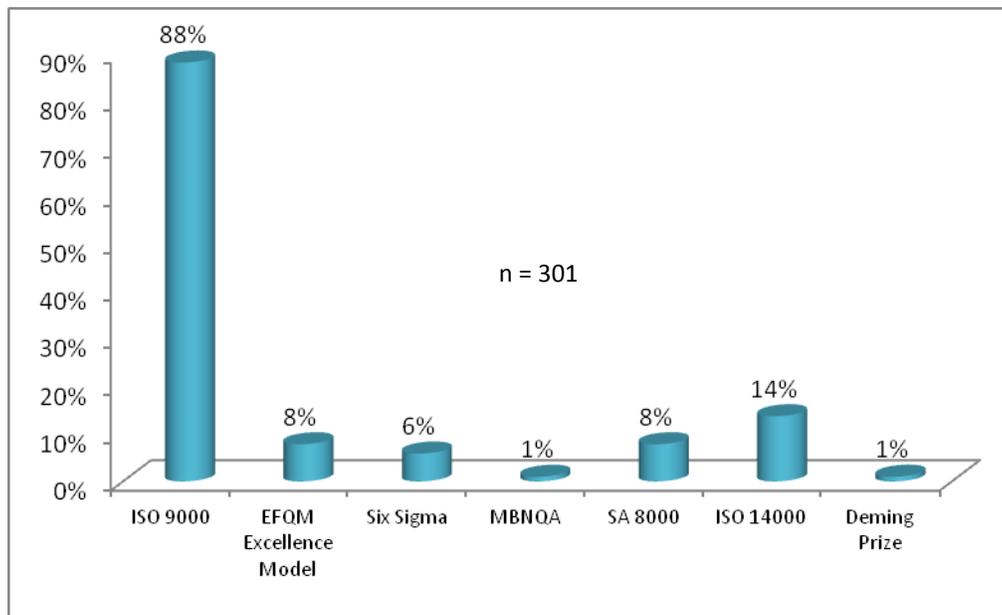
This study was conducted in the context of textile companies of Pakistan. The member companies of All Pakistan Textile Mills Association (APTMA) were taken as population of this study. The members list of APTMA is taken as the sampling frame for this study. These textile companies are located in different geographical regions of the country. Berenson, Levine and Krehbiel (2009) suggest that under such conditions, when the population of a study is located across a wide geographical region, then cluster probability sampling is the best option to get a representative sample, because it is cost effective in comparison to simple random sampling. Thus, it was decided that all the member organisations of APTMA located in the province of Punjab would be considered as the sample for this study.

According to Saunders et al. (2009, p.219) if the population size is 400, then the minimum sample size for confidence interval of $\pm 5\%$, should be 196. In the current study, the population size is 375 and the sample size is 210, which is sufficient to achieve a confidence level of $\pm 5\%$. The self-completion questionnaires were sent to the sample companies. The quality assurance managers were the respondents for this study. The respondents from all the companies were asked whether they had

implemented or were trying to implement any quality management systems and models.

The graph in Figure 2 indicates the level of the implementation of different management systems and models in the sampled textile companies. This table shows that eighty eight percent (88%) of the respondents have replied that their companies have implemented or tried to implement ISO 9001, fourteen percent (14%) ISO 14000, fifteen percent (8%) SA 8000 (Social Accountability standard), eight percent (8%) the EFQM excellence model, six percent (6%) Six Sigma and one percent (1%) MBNQA and Deming Prize.

Figure 2: The Extent of Implementation of Different Management Systems and Standards



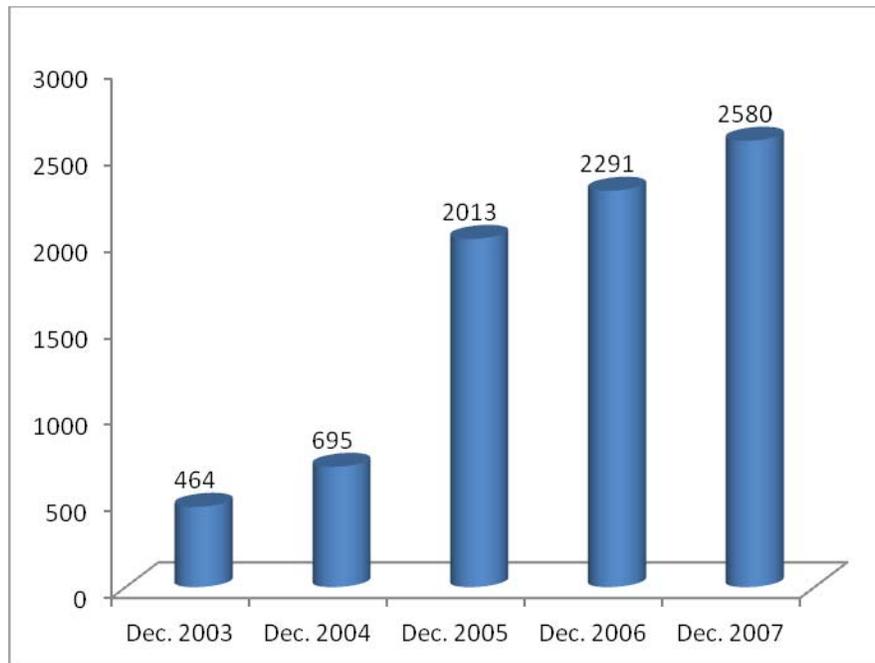
A much lower percentage of respondents mentioned that their companies were interested in the implementation of excellence or other advanced frameworks of improvement. After ISO 9001, the sample companies seem interested in the implementation of the environmental management standard (ISO 14000) and the social accountability standard (SA 8000). According to the perception of respondents, other models and frameworks such as MBNQA, the EFQM excellence model and Six Sigma were given the least importance by the sampled textile companies. The high implementation of ISO 9001 indicates that the sampled companies

are aware of the importance of quality management however, they are not going beyond the level of quality assurance to manage their processes.

DISCUSSION ON RESULTS

Among the different systems and standards the sample companies seem highly interested in the adoption of ISO 9001:2008. This finding is in accordance to the survey conducted from December 2003 to December 2007 by International Organisation for Standardisation (ISO). According to that survey there was around a fourfold increase in ISO 9000 certified companies in Pakistan between December 2004 and December 2007. The graph in Figure 3 indicates the increasing trend of certified companies since December 2004.

Figure 3: The Annual Growth of ISO 9000 Certificates from Dec. 2003 to Dec. 2007 in Pakistan



Source: the ISO Survey of Certification 2008, International Organisation for Standardisation

This finding is also in accordance with the findings of Malik and Yezhuang (2006), who indicate that in October 1997, the Pakistani

Government announced an incentive scheme for the certification of ISO 9000. This incentive was given in the form of a subsidy to meet the costs of implementation and certification. This initiative encouraged companies and within a few years, hundreds of Pakistani companies were certified to this quality management standard.

The higher level ISO 9000 certification indicates that at least the sample companies have the basic introduction to the quality management system and they have developed the basic documentation for the implementation of quality management concepts. Gutierrez et al. (2010) mention that implementation of ISO 9000 needs to be considered as the mid way towards the implementation of advanced TQM models like EFQM excellence model and six sigma. After conducting a detailed study, they have indicated that if an organisation wants a greater development towards the implementation of TQM then this advancement requires further development of some quality management elements, which makes the implementation of this initiative more complex than the previous one. If the organisations want to attempt, more ambitious and developed initiatives then they could think about EFQM excellence model and Six Sigma approaches. The implementation of these approaches required more complexity and development in the most of the quality management elements. According to their finding, the main difference between EFQM excellence model and Six Sigma is that the later requires a deeper implementation of process management, while complicating its implementation process.

It is quite interesting to see that in spite of having higher levels of ISO 9000 certification the Pakistani textile industries are not performing very well in the areas of quality, reliability and innovation. This seems contrary with the existing literature which advocates that certification to ISO 9000 certification can help the organisations to achieve better performance (Martinez-Costa, Choi and Martinez ,2009; Terziovski and Power, 2007; and Curkovic and Pagell, 1999). Moosa (2002) argues that the implementation of the ISO 9000 in Pakistan is over emphasised and ineffective. Baxter and Hirschhauser (2004) argues that most of the organisations implement quality improvement initiatives just to show the external world or to satisfy the contractual requirements with their customers rather than to improve the performance of their companies.

The other results indicate that the sample companies have given lower importance to environmental (ISO 14000) and social accountability standards (SA 8000). This indicates that the sample companies have not shown a clear commitment to the satisfaction of employees or society.

3) CONCLUSION

Textile industry is the backbone of Pakistani economy. However, it is facing immense pressure from its competitors in the international market. Before the WTO regime, Pakistani companies were enjoying the luxury of quota thus the deficiencies of this sector were not highlighted. After the removal of quota, this industry is suddenly exposed to a very high level of competition in the international market. It seems that Pakistani textile industry has not prepared itself to face such type of severe competition. This might be the reason that these companies are unable to compete, even with the South Asian countries on the dimensions of performance like timely delivery, consistency and reliability, innovation and quality of their products. This indicates that without making fundamental changes in their management approach and emphasising on quality management these textile companies cannot get their decent share from the international market. However, the results of this study indicate that these organisations seem aware of the importance of quality management system but just limiting themselves to the implementation of ISO 9000, quality management system rather than moving beyond the concepts of quality control and quality assurance. The effective implementation of ISO 9000 certification should consider as the mid way towards the implementation of advanced systems and models of TQM like EFQM Excellence model and Six Sigma.

BIBLIOGRAPHY

- All Pakistan Textile Mills Association. 5 January 2011. Available at <http://www.aptma.org.pk/default.asp>. [Accessed 15 February 2011].
- Asian Development Bank. Study on intraregional trade and investment in South Asia. Mandaluyong, Philippines. (2009). Available at <http://www.adb.org/Documents/Books/Intraregional-Trade-Investment/default.asp> [Accessed 15 February 2011].
- Baxter, L.F. and Hirschhauser, C. (2004). Reification and representation in the implementation of quality improvement

- programmes. *International Journal of Operations & Production Management*, 24(2), 207-224.
- Berenson, M.L., Levine, D.M. and Krehbiel, T.C. (2009). *Basic business statistics*. Eleventh Edition. New Jersey: Pearson Education, Inc.
- Crosby, P. B. (1980). *Quality is free: The art of making quality certain*, New York, McGraw-Hill, Inc.
- Curkovic, S. and Pagell, M. (1999). "A Critical Examination of the Ability of ISO 9000 Certification to Lead to a Competitive Advantage". *Journal of Quality Management*, 4(1), 51-67.
- Deming, W.E. (1986). *Out of the crisis: Quality, productivity and competitive position*. 19th Edition. Melbourne: Cambridge University Press.
- Fatima, M. and Ahmed, E. (2006). *Quality Management in Pakistan's Bedwear Industry*. *Quality Engineering*, 18, 443-451.
- Gutierrez, L.J.G., Torres, I.T. and Molina, V.B. (2010). *Quality management initiatives in Europe: An empirical analysis according to their structural elements*. *Total Quality Management*, 21(6), 577-601.
- Hendricks, K.B. and Singhal, V.R. (1999). *Don't count TQM out*. *Quality Progress*, April, 35-42.
- Hussain, T., Akhtar, N.A. and Butt, N.S. (2009). *Quality management: A case from Pakistan cotton yarn industry*. *Journal of Quality and Technology Management*, 5(1), 1-23.
- Khan, J.H. (2003). *Impact of Total Quality Management on productivity*. *The TQM Magazine*, 15(6), 374-380.
- Malik, S.A. and YeZhuang, T. (2006). *ISO certification: The trend and scope from Pakistani industry's perspective*. In *IEEE International Conference on Management of Innovation and Technology*.
- Martinez-Costa, M., Choi, T.Y. and Martinez, J.A. (2009). *ISO 9000/1994, ISO 9001/2000 and TQM: The performance debate revisited*. *Journal of Operations Management*, 27, 495-511.
- Masakure, O., Henson, S. and Cranfield, J. (2009). *Standards and export performance in developing countries: Evidence from Pakistan*. *The Journal of International Trade & Economic Development*, 18(3), 395-419.
- Moosa, K. (2002). *Strategic quality management in the Muslim world: A vision for the future*. In *Pakistan's Seventh International Convention on Quality Improvement*.
- Masakure, O., Henson, S. and Cranfield, J. (2009). *Standards and export performance in developing countries: Evidence from Pakistan*. *The*

Journal of International Trade & Economic Development, 18(3), 395-419.

Pakistan Economic Survey. Ministry of Finance, Government of Pakistan. (2009-10). Available at http://www.finance.gov.pk/survey_0910.html. [Accessed 15 June 2010].

Pakistan Economic Survey. Ministry of Finance, Government of Pakistan. (2010-11). Available at http://www.finance.gov.pk/survey_0910.html. [Accessed 15 June 2010].

Raza, A. (2007). Growth of textile industry in Pakistan vis-a-vis value addition. PhD, Hamdard University.

Saunders, M., Lewis, P. and Thornhill, A. (2009). Research methods for business students. 5th Edition. Edinburgh: Pearson Education Limited.

Small & Medium Enterprises Development Authority (SMEDA): Sector briefs. 2011. Available at <http://www.smeda.org/business-development/sector-briefs.html>. [Accessed 03 October 2010].

Terziovski, M. and Power, D. (2007). Increasing ISO 9000 certification benefits: a continuous improvement approach. International Journal of Quality & Reliability Management, 24(2), 141-163.

Textile Vision, (2005). Small and Medium Enterprise Development Authority Government of Pakistan. Available at http://www.smeda.org/publications/textile_vision_toc.php [Accessed 06 February 2011].

NOTE:

- i) References highlighted with green colour in Introduction and Methodology sections are not available in References section; and references highlighted in the References section are not available in the Introduction and Methodology sections.