Reshaping Management and Economic Thinking through Integrating Eco-Friendly and Ethical Practices
Proceedings of the 3rd International Conference on Management and Economics

26-27 February 2014
Faculty of Management and Finance, University of Ruhuna, Sri Lanka

Performance Improvement Best Practices Applicable to the Sri Lankan Apparel Industry

W.D.G. Lanarolle[a], T. Perera[b], and T.S.D. Yapa[c]

[a]*University of Moratuwa, Sri Lanka. wilath@uom.lk*
[b]*Sheffield Hallam University, UK. t.d.perera@shu.ac.uk*
[c]*Imperial Institute of Higher Education, Sri Lanka. tolushayapa@gmail.com*

Abstract

Despite the fact that performance improvement receives a significant attention among the Sri Lankan Apparel Industry, achievement of the results expected through performance improvement efforts has been low. The main reason for this is that managing and maintaining the improvements have not obtained a considerable devotion among the industry. Lack of consideration on practical applicability and compatibility of the well-known performance improvement philosophies have resulted in significant loss of time, money and effort with a lower level of success among some Apparel Manufacturing Organizations. Many researchers highlighted that implementing one performance improvement philosophy is not always capable in meeting all the business requirements. Therefore, the objective of this research is to present a set of best practices selected from different performance improvement philosophies, which are suitable for the Sri Lankan Apparel Industry. Fifty two best practices recommended by the existing performance improvement philosophies were subjected to an industry survey conducted among 60 Sri Lankan Apparel Manufacturing Organizations, which were recognized as experts in performance improvement. Survey results revealed that 49 among them were significantly used and successfully implemented by the responded organizations. Furthermore survey results exposed that they are highly useful for the Sri Lankan Apparel Industry. Furthermore, it was revealed that all the 49 best practices have at least a weak relationship between the level of use and level of success achieved by implementing them. The grouping criteria developed based on the level of use and the level of success of each selected best practice helps organizations as they can decide to which level they should implement the best practices they have selected to apply, in order to get better and effective results.

Keywords: *best practices; performance improvement; Sri Lankan apparel industry*

1. Introduction

Sri Lankan Apparel Industry (SLAI) is one of the key players of the country's economy with nearly 10 percent contribution to the Gross Domestic Product (GDP) (Mirchandani, 2009; Omar, 2008). The industry itself holds approximately 60% of the total industrial exports of the country, while employing almost 15% of country's total eligible workforce (Board of Investments [BOI], 2012; Asian Development Bank [ADB], 2008; Wickremasinghe & Jayakody, 2011). Moreover, industry accounts for the provision of about 1% of the total American and European clothing needs with nearly 60% value addition (Omar & Cooray, 2005; Mirchandani, 2009). Despite the fact that the SLAI of Sri Lanka covers just about 2% of the global market share, it is well reputed among its customers as an ethical manufacturer of quality apparel products (Adikari & Yamamoto, 2007).

Being a global business, SLAI has become competitive especially due to the competition from South

Asian and South-East Asian countries like India, Pakistan, China, Bangladesh, Vietnam and Cambodia (Kelegama, 2009; Kelegama & Epaarachchi, 2001). Though low cost of production, cheap labour and relatively educated, trainable workforce were distinct advantages for the SLAI few years ago, majority of them are not benefits anymore (Tilakaratne, 2006). Poor labour productivity, high lead time, high bargaining power of both customers and suppliers and rapidly changing order specifications are some of the key barriers for the industry after the removal of quota system (Omar & Cooray, 2005; Palansuriya, 2009; Kelegama, 2005; Farhana & Amir, 2009; Adikari & Yamamoto, 2007). These challenges have caused the SLAI to focus on improving both labour and operational productivity of the business as well as managing those efforts efficiently and effectively (Kelegama, 2009).

Despite the fact that the performance improvement receives a significant attention among the SLAI, achievement of the results expected through performance improvement efforts has been low (Kelegama, 2005). The main reason for this is that managing and maintaining the improvements have not obtained a considerable devotion among the industry (Allen, 2008). Absence of a systematic, structured guidance on implementing performance improvement efforts has created several consequences such as low devotion on the important aspects of performance improvement and ineffective utilization of resources (Allen, 2008). Lack of consideration on practical applicability and compatibility of the well-known performance improvement philosophies have resulted in significant loss of time, money and effort with a lower level of success among some apparel manufacturing organizations (Allen, 2008). Emphasizing the same issue, several industry professionals stated that it is vital to have a methodically applicable framework in guiding the performance improvement and management efforts within the industry.

Furthermore, as a general fact, even though enormous numbers of performance improvement philosophies are available at present, many organizations have limited their choice to one philosophy, which they believe as the most appropriate to their business culture. However, one performance improvement path is not always capable in meeting all the business requirements (Lee & Dale, 1998) hence, an integrated approach is required.

Therefore, the objective of this research was to present a set of best practices selected from different performance improvement philosophies, which are suitable for the SLAI. Best practices, or in other words, the key principles and procedures which make the performance improvement philosophies corrective and effective, will be helpful for any apparel manufacturer in Sri Lanka, when implementing performance improvement efforts within their business processes. Furthermore, the study targeted on grouping the selected performance improvement best practices based on their level of use and level of success, thereby assisting the users in implementing those best practices simultaneously.

2. Literature Review

Performance Improvement

Improving the business performance is a continuous process of upgrading the efficiency and effectiveness of the business by challenging the present way of performance (Harrington, 2005; Love & Li, 1996, as cited in Love et al., 2000). This can be achieved by eliminating non-value-added activities, reducing variations and optimizing the utilization of resources of the processes, which are associated with the business (Love Li, 1996, as cited in Love et al., 2000). Improving the process not only leads towards improvement in products and services, but also towards improvement in the performance of the overall business (Williams, 2007).

Performance improvement (PI) is one of the key principles of Business Process Management (BPM). It has direct effects on the effectiveness, efficiency and adaptability of a business to furnish a better service to its customers, while achieving the business objectives (Harrington, 2005). Accordingly, improving the performance has become one of the prime tasks of many organizations.

Depending on the degree of improvement, performance improvement can be either 'Incremental' or 'Radical' (Zellner, 2011). 'Incremental' approach associates with implementing a set of small improvements

to the existing process in a gradual manner, while the 'Radical' approach deals with completely changing the way the process performs, through innovative ideas (Bhuiyan & Baghel, 2005; Love et al., 2000; Zhang & Cao, 2002). Table 1 shows the major differences of the two approaches, in various perspectives (Davenport, 1993).

Table 1: Comparison of two performance improvement approaches

Aspect	Incremental Improvement	Radical Approach
Level of change	Gradual	Radical
Starting point	Existing process	Clean slate
Frequency of change	One-time/continuous	One-time
Time required	Short	Long
Participation	Bottom-up	Top-down
Typical scope	Narrow, within functions	Broad, cross-functional
Type of change	Cultural	Cultural/structural
Primary enabler	Statistical control	Information technology
Risk	Low	High

Source: Davenport (1993)

Performance Improvement Philosophies and Best Practices

True optimization of business processes starts with a strong improvement methodology, which is focused on eliminating, or reducing the activities, that cause more errors or that create great cost (Breyfogle, 2004). Total Quality Management (TQM), Lean Manufacturing and Six Sigma are the most famous performance improvement methodologies within Incremental approach (Bhuiyan & Baghel, 2005; Neubauer, 2009; Dhookie, 2008) while Business Process Reengineering (BPR) is the most famous for Radical (Love et al., 2000; Zhang & Cao, 2002).

Best practice is a procedure or a principle that is accepted as correct and effective (Harrington, 2005; Bhuiyan & Baghel, 2005). Performance improvement best practices are based upon the same definition which make the performance improvement philosophies more accepted (Harrington, 2005). Each philosophy is defined and described under a set of such best practices. Depending on the aspect of which the philosophy focuses on in relation to improving the performance, the set of best practices are defined (Bhuiyan & Baghel, 2005). For example, TQM, as a quality-focused philosophy, keeping inline quality points within the manufacturing flow is defined as one of its best practices.

3. Methodology

Data collection was conducted in two phases namely, *literature survey* and *industry survey*. During the literature survey, prime focus was given to identify the performance improvement best practices recommended by the existing performance improvement philosophies such as Lean Manufacturing, Six Sigma, Total Quality Management, Business Process Reengineering, Kaizen, Just-In-Time, Standardization and Employee Empowerment. Principles behind these philosophies were studied through books and research publications and fifty-two best practices were identified under sixteen categories. The aim of conducting an industry survey was to identify the best practices that industry has been successful in implementing. A structured questionnaire was used in assessing the best practices under three measurements,

- level of use of the best practice
- level of success achieved by applying the best practice
- personal feeling of the respondent about the usefulness of the best practice to the industry

Since some best practices which were applied, would not have given successful results, the level of use and the level of success achieved by implementing each best practice was decided to identify. Furthermore, some best practices, although they have significantly used and successful in implementation, they might not be very useful to the industry. Therefore, in identifying the best practices to the SLAI, it was decided to measure the level of usefulness of the best practices to the industry.

All three measurements of each best practice were facilitated by the questions where the respondent can choose the answer. For the first two measurements, a six-point rating scale was presented and respondents were asked to choose their rating for each best practice. For the third measurement, dichotomous type of data was gathered where the respondent has just two options to select; either *Yes* or *No* (Bryman & Bell, 2007).

The targeted population of the survey was the apparel manufacturing organizations which are currently operating in Sri Lanka and which are the experts in implementing performance improvement efforts within their business processes. 'Non-probability sampling' method was employed in selecting the appropriate sample of the study (Bryman & Bell, 2007; Saunders, Lewis, & Thornhill, 2003). Using the 'Convenience sampling' technique, a sample size of sixty was chosen from the above defined population of the study. Survey was subjected to the operations mangers of the sample of the study. At the end of the survey conducted through both *Online* and *Delivery and Collection* methods (Saunders, Lewis, & Thornhill, 2003), thirty-five valid responses were identified with a response rate of 58.33%.

4. Data Analysis

Data gathered from the questionnaire survey was analyzed in two phases. During the first phase, each measurement was analyzed independently for all three measurements while the relationship between *level of use* and *level of success* of each best practice was analyzed in the second phase. During the first phase the three measurements were independently analyzed using 'Univariate Analysis Methods' (Bryman & Bell, 2007). The purpose of doing so was to identify the best practices, which are suitable for the SLAI. 'Kolmogorov Smirnov Test' was used in analyzing the *level of use* and the *level of success*, while 'Frequency Table' was used in analyzing the *usefulness*.

Kolmogorov Smirnov test is a univariate data analysis method used in analyzing *ordinal* type of data which are gathered as categories and the categories are orderly ranked, but distances between categories are not equally defined (Bryman & Bell, 2007). Questions with rating scales are the most common question type in ordinal data. Hence, Kolmogorov Smirnov test was used to analyze the data gathered for the best practices for *level of use* and *level of success*. Frequency table is another univariate data analysis method, which can be applied for any data type (Bryman & Bell, 2007). It shows the frequency of occurrence of the variable under each measuring point (Bryman & Bell, 2007). For the measurement *usefulness*, frequency of occurrence of two measuring points *Yes* and *No* is calculated and depicted as percentage values.

Categorization of analyzed data

Table 2: Selection criteria of the performance improvement best practices suitable for SLAI

Category	Significantly used	Level of success	Usefulness	Literature support	Selected
A	YES	YES	HIGH	YES	YES
	YES	YES	HIGH	NO	YES
B	YES	YES	LOW	YES	YES
	YES	YES	LOW	NO	NO
C	NO	NO	LOW	YES	YES
	NO	NO	LOW	NO	NO

Based on the independent analysis for the three measurements, best practices were divided into three categories named A, B, C. The best practices which were significantly used, successfully implemented and which the respondents have commented as useful were grouped under category 'A', whereas the best practices which were significantly used, successfully implemented but usefulness was commented as low were grouped in category 'B'. Rest of the best practices were grouped in category 'C'. Table 2 illustrates the criteria for categorizing the best practices. As shown in the same table, each category was further divided in to two sub-categories based on the availability of the literature support for the best practices.

Analyzing the relationship between the level of use and the level of success

In analyzing the relationship between the level of use and the level of success, 'Bivariate Analysis Methods' were employed (Bryman & Bell, 2007). Since the data collected for both measurements is ordinal, 'Spearman's rho' was used in analyzing their relationship.

Spearman's rho, denoted as r_s, measures the strength, direction and the significance of the relationship (Walker & Maddan, 2009). The magnitude of r_s, which represents the strength of the relationship normally, lies between 0 and 1, where closer to 1 denotes a very strong relationship (Bryman & Bell, 2007; Walker & Maddan, 2009). Direction can be either '+' or '-' where '+' interprets that the increase of one variable has an effect on increasing the other variable.

Selected best practices were classified into three groups based on the strength of the relationship between the two measurements. Table 3 presents the range of r_s values of each group and the level of strength of the relationship they interpret.

Table 3: Lower and upper boundaries of the best practice groups

Group	rho Range	Strength of the relationship	Representation of relationship strength
I	$0.433 \leq x < 0.700$	Weak	+
II	$0.700 \leq x < 0.900$	Moderate	++
III	$0.900 \leq x \leq 1.000$	Strong	+++

5. Results and Discussion

Independent analysis of the best practices resulted in categorizing 49 best practices in Category A, one in Category B and two best practices in Category C. Best practices of category A which are sufficiently used, successfully applied and identified as highly useful to the industry were decided as suitable for the SLAI without a doubt. Although the category B best practices are sufficiently used and successfully applied, their usefulness has not been proven to the maximum level. Therefore, category B best practices were not selected as suitable for the SLAI. Similarly, best practices of category C were neither sufficiently used nor successfully applied, within respondent organizations. Furthermore, the usefulness of category C best practices is low compared to the other two categories, hence those best practices were also not selected as suitable for the SLAI. Therefore, out of the 52 best practices subjected to the survey, 49 best practices were identified as suitable for the SLAI.

Analysis of the relationship of the selected 49 best practices revealed that 17 of them have a Weak relationship between the level of use and the level of success, whereas only 2 show a Strong relationship. Rest of the 30 best practices show a Moderate relationship between the two measurements (shown in Table 4). This indicates that Group II best practices show that increase of the level of use will help in increasing the level of success, but to a moderate level. Similarly, Group III best practices show that greater the level of use of such best practices, greater the level of success that can be achieved. Group I best practices, though they show a positive relationship between the two measurements, the impact of the level of use on the level of success is quite low compared to the other two groups. This grouping will be a distinct advantage for the users as they can decide to which level they should implement the best practices they have selected to apply, in order to get

Table 4: Summary of the data analysis of performance improvement best practices

	Best practice	LOU	LOS	UF	Category	rho	Group
GT_01	Form small work teams and train them towards a common focus	U[a]	S[b]	UF[c]	A	0.513	I
GT_02	Arrange work stations in the sequence of which the product is made	U	S	UF	A	0.687	I
GT_03	Train workers to perform more than one operation	U	S	UF	A	0.688	I
GT_04	Use machine layouts which facilitate minimum movement of man and material	U	S	UF	A	0.545	I
GT_05	Reward teams with good performance	U	S	UF	A	0.584	I
STD_01	Document a step by step detailed work procedure for each operation	U	S	UF	A	0.808	II
STD_02	**Let work teams to develop their own standardized way of doing their work**	**NU[d]**	**NS[e]**	**UF**	**C**	-	-
STD_03	Audit the standardized procedures in regular basis	U	S	UF	A	0.765	II
STD_04	Upgrade the standardized work procedures in regular basis	U	S	UF	A	0.797	II
BIQ_01	Train work teams to check the availability of all necessary resources, before the work starts	U	S	UF	A	0.705	II
BIQ_02	When a problem occurs at a workstation, fix it before moving the goods to the next workstation	U	S	UF	A	0.573	I
BIQ_03	Conduct inline quality checks at pre-defined places within the work cell	U	S	UF	A	0.602	I
BIQ_04	Conduct a detailed quality check on every output of the work cell	U	S	UF	A	0.789	II
BIQ_05	Use a signalling system to indicate that the workstation is stopped due to a quality issue	U	S	UF	A	0.524	I
BIQ_06	Communicate the new problems among the team members immediately to avoid re-occurrence	U	S	UF	A	0.586	I
BW_01	Maintain a balanced workload at all workstations based on different product types and their quantities	U	S	UF	A	0.815	II
BW_02	Maintain a small inventory of inputs of the daily production, closer to the workstation	U	S	UF	A	0.883	II
MP_01	Use a mechanism to make sure that all the operations are done	U	S	UF	A	0.882	II
MP_02	Use a mechanism to alert workers when an error is happened	U	S	UF	A	0.894	II
MP_03	Modify machines to detect errors where it happens	U	S	UF	A	0.817	II
MP_04	Shutdown the work cell when an error occurs	U	S	UF	A	0.697	I
VC_01	Use charts and graphs to visualize the information about the work and update them regularly	U	S	UF	A	0.852	II
VC_02	Present information which are interrelated, in one sheet of paper	U	S	UF	A	0.759	II
SUR_01	Perform setup activities while the work is progressing at the workstation	U	S	UF	A	0.837	II
SUR_02	**Perform setup activities while the work is stopped at the workstation**	**U**	**S**	**UF**	**B**	-	-
SUR_03	Increase the amount of external setup activities as much as possible	U	S	UF	A	0.927	III
SUR_04	Store equipment needed to setup machines, closer to the workstation	U	S	UF	A	0.868	II
SUR_05	Train workers on the setup process before it is performing, to minimize the setup time	U	S	UF	A	0.792	II

Table 4: Summary of the data analysis of performance improvement best practices (Cont'd)

	Best practice	LOU	LOS	UF	Category	rho	Group
TPM_01	Train workers to do minor maintenance tasks	U	S	UF	A	0.506	I
TPM_02	Give worker the responsibility of maintenance work which he/she performs	U	S	UF	A	0.661	I
TPM_03	Conduct maintenance activities on a regular basis, in a planned way	U	S	UF	A	0.813	II
TPM_04	Develop a mechanism to repair and maintain machines when man and machines are idling	U	S	UF	A	0.923	III
KB_01	Use a signalling system to control the inventory within a workstation	U	S	UF	A	0.832	II
KB_02	Use a signalling system to control the inventory between workstations	U	S	UF	A	0.838	II
CF_01	Use small inventory buffers where continuous flow is not possible	U	S	UF	A	0.832	II
JIT_01	Plan the work in backward direction (from demand to supply)	U	S	UF	A	0.717	II
JIT_02	Perform work of a workstation based on the demand of the next workstation	U	S	UF	A	0.725	II
5S_01	Keep resources necessary to perform the work and dispose unnecessary	U	S	UF	A	0.659	I
5S_02	Create permanent locations for resources based on easy access and frequency of use	U	S	UF	A	0.733	II
5S_03	Clean the workplace daily within a fixed time duration	U	S	UF	A	0.728	II
EE_01	**Let workers take major decisions regarding their work**	**NU**	**NS**	**UF**	**C**	**-**	**-**
EE_02	Train workers to discuss with others before taking important decisions	U	S	UF	A	0.766	II
EE_03	Give responsibility to workers to check the input they receive	U	S	UF	A	0.881	II
EE_04	Give responsibility to workers to check their output before passing to the next worker	U	S	UF	A	0.583	I
EE_05	Give responsibility to workers to take necessary actions when a defect is found	U	S	UF	A	0.778	II
CI_01	Create team of workers to find solutions to the problems of a workstation	U	S	UF	A	0.875	II
CI_02	Take ideas from both workers of the workstation (insiders) and workers outside the workstation (outsiders) in finding solutions to problems	U	S	UF	A	0.82	II
CI_03	Conduct meetings among team members on a regular basis	U	S	UF	A	0.473	I
CI_04	Reward teams with good ideas	U	S	UF	A	0.65	I
PFD_01	Avoid repeating the same activity at the different places of the workflow	U	S	UF	A	0.817	II
PFD_02	Perform parallel work wherever possible to reduce the total lead time	U	S	UF	A	0.766	II
OTH_01	Reduce number of indirect people involve in the work	U	S	UF	A	0.667	I

U – best practice is sufficiently used, S – application of best practice is successful, UF – best practice is useful to the industry, NU – best practice is not sufficiently used, NS – application of best practice is not successful.

GT – Group Technology, STD – Standardization, BIQ – Build In Quality, BW – Balanced Workload, MP – Mistake Proofing, VC – Visual Control, SUR – Setup Reduction, TPM – Total Productive Maintenance, KB – Kanban, JIT – Just In Time, CF – Continuous Flow, 5S – Five S, EE – Employee Empowerment, CI – Continuous Improvement, PFD – Process Flow Design, OTH – Other.

better and effective results. For instance, if the best practice Increase the amount of external setup activities as much as possible (best practice SUR_03 in Table 4) is considered, as the rs value is +0.927, it falls into Group III and that shows a strong relationship between the level of use and the level of success achieved. Conversely, the best practice Form small work teams and train them towards a common focus (best practice GT_03 in Table 4) which is in Group I with rs value of +0.688 does not need to be applied to a greater extent to achieve a significant success. It means that application level of the best practice, whether to a lower level or higher level does not have a significant impact on the level of success.

Table 4 summarizes the results of the data analysis carried out for the three measurements: level of use (LOU), level of success (LOS) and usefulness (UF) for each best practice and the categorization of the selected best practices based on the relationship between LOU and LOS. Best practices, which are not selected to be applied in the SLAI, are highlighted in the table.

6. Conclusion

The research was focused on identifying and presenting a set of performance improvement best practices suitable for the SLAI. Literature survey of existing performance improvement philosophies resulted in 52 best practices. The survey conducted among performance improvement experts within the targeted industry revealed 49 best practices are suitable for the targeted industry. All those best practices were identified as significantly applied, successfully implemented and as highly useful to the SLAI. Categorization of the selected best practices based on the strength of the relationship between their level of use and the level of success would assist Sri Lankan apparel organizations to identify the level to which the best practices should be applied within their organizations.

Selection of the best practices suitable for an organization depends on organization-specific parameters such as strategic direction and resource availability. Therefore best practices which were identified as suitable to be implemented within the SLAI through this study can be further studied in explaining the selection of them based on organization-specific requirements, which will create a direction for future research. Furthermore, how the best practices recommended through this study should be implemented within any apparel manufacturing organization provides another opportunity for future research. The BPM lifecycle proposed through the next part of the research is done based on this where it guides users in implementing the selected best practices within their organizations.

Acknowledgement

This research on "Performance Improvement Best Practices Applicable to the Sri Lankan Apparel Industry" was supported by University of Moratuwa Senate Research Grant Number 314, under the theme "Framework to Implement Business Process Management Principles in Apparel Manufacturing".

References

Adikari, R., & Yamamoto, Y. (2007). The textile and clothing Industry: Adjusting to the post-quota world. Industrial Development for the 21st Century, 183-234.

Allen, R. M. (2008). Performance Measurement of Textile and Apparel Supply Chains in Developing Countries. (Doctoral Dissertation, North Carolina State University, 2008). Retrieved May 15, 2010, from http://repository.lib.ncsu.edu/ir/bitstream/1840.16/6200/1/etd.pdf

Asian Development Bank. (2008). Country Partnership Strategy – Sri Lanka 2009-2011 (Vol. October). Asian Development Bank.

Bhuiyan, N., & Baghel, A. (2005). An overview of continuous improvement: from the past to the present. Business Process Management Journal, 43(5), 761-771.

Board of Investments Sri Lanka. (n.d.). Sector Overview – Apparels. Retrieved April 02, 2012, from Board of Investments Sri Lanka: http://www.investsrilanka.com/key_sectors_for_investment/apparel_

overview.html

Breyfogle, F. W. (2004, October). Leveraging Business Process Management and Six Sigma in Process Improvement Initiatives. Retrieved Jan 12, 2011, from www.bptrends.com: http://www.bptrends.com/publicationfiles/10-04%20WP%20Leveraging%20BPM%20and%20Six%20Sigma%20-%20Breyfogle.pdf

Bryman, A., & Bell, E. (2007). Business Research Methods. New York, USA: Oxford University Press.

Davenport, T. H. (1993). Process Innovation: Reengineering Work through Information Technology. USA: Ernst & Young.

Dhookie, V. (2008). To Know the Future Know the Past. Retrieved January 12, 2010, from www.BPMInstitute.org: http://www.ayokait.eu/images/pdf/1/BPMKnowthefutureknowthepast-Dhookie.pdf

Farhana, F., & Amir, A. (2009). Lean Production Practice: the Differences and Similarities in Performance between the Companies of Bangladesh and other Countries of the World. Asian Journal of Business Management, 1(1), 32-36.

Harrington, H. J. (2005). Business Process Improvement: the Breakthrough Strategy for Total Quality, Productivity and Competitiveness. New Delhi: Tata McGraw-Hill Publishing.

Kelegama, S. (2005). Ready-Made Garment Industry in Sri Lanka: Preparing to Face the Global Challenges. Asia-Pacific Trade and Investment Review, 1(1), 51-67.

Kelegama, S. (2009). Ready-made Garment Exports from Sri Lanka. Journal of Contemporary Asia, 39(4), 579-596.

Kelegama, S., & Epaarachchi R. (2001). Productivity, Competitiveness and Job Quality in Garment Industry in Sri Lanka. New Delhi: International Labour Organization.

Lee, R. G., & Dale, B. G. (1998). Business process management: a review & evaluation. Business Process Management Journal, 4(3), 214-225.

Love, P. E. D., Li, H., Irani, Z., & Holt, G. D. (2000). Re-thinking TQM: toward a framework for facilitating learning and change in construction organizations. The TQM Magazine, 12(2), 107-116.

Mirchandani, K. (2009). Sri Lanka - a global apparel destination like no other. Retrieved September 11, 2009, from http://www.fibre2fashion.com/news/apparelnews/newsdetails.aspx?news_id=76976

Neubauer, T. (2009). An empirical study about the status of business process management. Business Process Management Journal, 15(2), 166-183.

Omar, A. (2008). Sri Lanka apparel industry says it helped uplift village economy. Retrieved April 12, 2012, from http://www.lankabusinessonline.com/fullstory.php?nid=1188080830

Omar, A., & Cooray, T. (2005). Apparel Industry – Private Sector Perspective. Sri Lanka Development Forum, National Council for Economic Development - Apparel Cluster. Retrieved January 12, 2012, from http://www.recoverlanka.net/data/SLDF05/paper-16.pdf

Palansuriya, C. (2009, February 25). High Manufacturing Costs Hurts Apparel Industry. Daily Mirror-Financial Times. Retrieved September 27, 2011, from http://nokorkhmer.blogspot.co.uk/2009/02/high-manufacturing-costs-hurt-apparel.html

Saunders, M., Lewis, P., & Thornhill, A. (2003). Research Methods for Business Students. Singapore: Pearson Education.

Tilakaratne, W. M. (2006). Phasing Out of MFA and the Emerging Trends in the Ready Made Garment Industry in Sri Lanka. In Employment of readymade garment industry in POST-MFA ERA: The cases of India, Bangladesh and Sri Lanka. Retrieved September 18, 2009, from http://202.244.105.132/English/

Publish/Download/Jrp/pdf/140_2.pdf

Walker, J. T., & Maddan, S. (2009). Statistics in Criminology and Criminal Justice. USA: Barlett Publishers.

Wickremasinghe, N. H., & Jayakody, S. (2011). Economic trends and prospects in developing Asia: South Asia: Sri Lanka. Asian Development Outlook, 177-176.

Williams, B. (2007, February). BPM: The Next Stage for Continuous Process Improvement. Retrieved March 05, 2010, from http://www.softwareag.com/es/Images/SAG_BPM_CPI_WP_Dec07-web_tcm24-34220.pdf

Zellner, G. (2011). A Structured Evaluation of Business Process Improvement Approaches. Business Process Management Journal, 17(2), 203-237.

Zhang, Q., & Cao, M. (2002). Business process reengineering for flexibility and innovation in manufacturing, Industrial Management and Data Systems, 146-15.