FGS
CJMR

COLOMBO JOURNAL OF MULTI-DISCIPLINARY RESEARCH

Volume 2 No 02 December 2015

Colombo Journal of Multidisciplinary Research (CJMR), a refereed publication, that publish articles, reviews and scholarly comments relating to any fields of studies. The journal is a multi-disciplinary, innovative and international in its approach. It includes theoretical and conceptual articles as well as more empirical studies covering both historical and contemporary issues/events. CJMR is published by the Faculty of Graduate Studies, University of Colombo from 2014.

Published by

Faculty of Graduate Studies

University of Colombo

2016

ISSN : 2362-0633

Printed by

COLOMBO JOURNAL OF MULTI-DISCIPLINARY RESEARCH

Faculty of Graduate Studies

University of Colombo

Subscription

Institutional Subscription, Combined (Print & E-access)	$17.00
Institutional Subscription, E- access	$12.00
Institutional Subscription, Print Only	$15.00
Individual Subscription, Print Only	$11.00

Individual articles are available for immediate purchase online (See View Full- Text icon above). Print copies of individual issues can be purchased by contacting the FGS, University of Colombo, Colombo 03, Sri Lanka.

Table of Contents

Corporate Social Responsibility Initiatives in Global Apparel Value Chain and their Influence on Sri Lankan Apparel Suppliers

B.A. N.Eranda[1] and N.Abeysekera[2]

Abstract

This paper explains the corporate social responsibility (CSR) practices in global apparel value chains where the global buyers are connected with suppliers in a quasi-hierarchical structure. It explains how global buyers' CSR practices influence on Sri Lankan apparel suppliers. The changes in international trade setting in the apparel industry encouraged to adopt sustainable business practices. Global buyers crafted sourcing strategies by emphasizing CSR initiatives in dealing with apparel suppliers. These CSR initiatives directly influenced on Sri Lankan apparel suppliers. The influence depicts discernible differences between smaller and large scale suppliers pertaining to the types of CSR practices undertaken in Sri Lanka. Large scale suppliers entered into both responsive and strategic CSR, while smaller scale suppliers were merely limited to responsive CSR. Consequently, large scale suppliers reconceived their products and markets and redefined productivity in their value chain. Therefore, CSR practices of global buyers made diverse implications for apparel industry.

Key words: *Corporate social responsibility, global value chain, apparel industry, qualitative research*

Introduction

More and more, companies are practicing corporate social responsibility (CSR) as a mainstream strategy in their operations. It has been increasingly used for driving organizations to transform the way they undertake business by focusing on responsibilities that they owe towards multiple stakeholders.

---

[1]Department of Marketing Management, University of Peradeniya, nuresh80@gmail.com

[2]Department of Management Studies, the Open University of Sri Lanka, nalinabeysekera@gmail.com

However, these organizations currently operated in global collaborative networks or value chains whose geographical boundaries are difficult to define. Camarhina–Matos and Afsarmanesh (2005) identified that these collaborative networks have emerged to address various economic and social challenges in the world. Sri Lankan organizations are also inserted into these global inter-firm networks since they supply products to the global market and this can be mainly found in labor intensive industries like apparel (Gereffi, 1999). More importantly, these inter-firm networks governed mainly by leading organization in the developed countries consider that sustainability is a way of doing business and CSR becomes the core driver of their sourcing strategies.

In light of these inter-connected firms, the true meaning of CSR is realized only when the suppliers from developing countries progress through these emerging sustainability initiatives. Based upon this proposition, this paper presents a study which attempts to answer the problem 'how do the CSR initiatives of global buyers influence on Sri Lankan apparel suppliers?' In answering this problem the research aims to find out the changing market conditions in the global apparel value chain and emerging CSR initiatives of global buyers. Thereafter, the paper presents CSR practices of Sri Lankan apparel suppliers in line with those of global buyers.

The paper begins with an overview of Sri Lankan apparel industry by highlighting the significance of this industry for the country, followed by an overview of changes that took place in international apparel trade regime and the resulting significance of sustainability orientation in the industry. Thereafter, an explanation for global value chains is presented and then this concept is applied to apparel industry to illustrate its buyer-driven nature. It then presents the theoretical underpinnings of the study related to CSR and its strategic nature. The following section provides a brief overview for the methodology and profiles of the apparel suppliers in the case study. Thereafter, the key findings are delineated and discussed. Finally, the concluding remarks are presented with the key areas for future research.

Literture Review

Overview of Sri Lankan Apparel Industry

Apparel industry is one of the most important manufacturing industries in Sri Lanka. It has contributed to the country's economic development through many ways such as

attracting Foreign Direct Investment (FDI), creating employment opportunities, earning foreign income and facilitating to develop related industries within the country. Moreover, it became the largest single employer in the manufacturing sector and 6% of country's labor force is depending on it and nearly 73% of workforce consists of females in the apparel industry. Currently, the Sri Lankan apparel industry is focusing on transforming from 'manufacturing-driven business model' to a 'fully integrated apparel solutions provider'. Therefore, apparel suppliers undertake most of the functions relinquished by global buyers. More importantly, Sri Lankan apparel industry is positioned as the 'preferred ethical apparel sourcing destination' in order to improve the competitive advantage. In pursuing this positioning strategy, JAAF uses 'garments without guilt' as the value proposition. This proposition ratifies the 27 core conventions of the United Nations (UN) and the International Labor Organization (ILO) including prohibition of forced labor, child labor, discrimination on any grounds, and the protection of environment.

Changes in International Trade Setting in Apparel Industry and Sustainability Concerns

Exports in the apparel industry were mainly governed by the Multi Fiber Arrangement (MFA) until 2004 which was referred to as the quota regime. However, after the abolition of MFA on January 01, 2005 global apparel exports were governed under the jurisdictions of World Trade Organization (WTO). Therefore, multilateral trading system started to govern the garment and textile industry through its rules and disciplines. Tewari (2005) pointed out that this will facilitate efficient manufacturers to gain over the higher costs manufacturers in the global apparel production. Especially, China will be the largest beneficiary in this MFA removal at the expense of both Asian and non-Asian apparel suppliers. Moreover, countries which are geographically proximate to the major markets (Mexico, Turkey and other European countries) are benefitted from the removal of MFA. Therefore, Sri Lanka seemed to be a loser in the post-MFA period due to its higher costs of production compared to lower cost manufacturing destinations and geographically proximate countries. Even some of the pessimists forecasted that the Sri Lankan apparel industry will be phased out when the MFA is abolished.

Even the cost advantage is an important factor to be successful in the post-MFA period, some of the other factors like productivity improvement will be imperative to

improve the competitive position. Particularly, Abernathy *et al.* (1999) pointed out that competitiveness of the apparel suppliers will depend on factors such as flexibility in operations, ability to handle product diversities, inventory stock, demand for replenishment and the features in lean retailing. Therefore, there is a new type of competition after the removal of MFA and the global buyers decisions do not solely depend on the low production costs. Therefore, in the post-MFA era, the global buyers tend to make their decisions based on these new conditions. Nordås (2004) mentioned that, in sourcing decisions and in the global apparel trading networks competitiveness is transferring from cost competitiveness to lead time reduction and flexibility. All in all, it is clear that the changes in the international trade setting significantly transformed the determinants of the apparel manufacturing competitiveness.

Furthermore, sustainability has also become a significant driver of global apparel industry in the post-MFA period. To point out few of these initiatives, ILO (2005) described that the 'High-road' strategy for labor standards which focused on 'growth with equity' is also an effective strategy to retain the buyers during post-MFA period. This has been resulted due to the global buyers' trend toward practicing CSR strategies to offer a value-driven service to the customers. This approach has been practiced by Cambodia by implementing 'Better Factories Cambodia: ILO Project' with the aim of improving the working conditions of factories. Therefore, suppliers were able to retain the buyers' loyalty and remain successful in the post-MFA period. Mainly, garment suppliers have to deal with the social impact of the abolition of MFA through protecting human rights, improving working conditions, and upgrading skills of employees. Therefore, removal of MFA emphasized that the garment suppliers are required to incorporate CSR and sustainability strategies in order to be competitive in the global apparel industry. Particularly, they need to coordinate their CSR and sustainability efforts with those of global buyers.

Theortical background

Overview of Global Value Chains

Export oriented industrialization in developing countries increasingly integrated their local economies with the global market. In looking at the nature of these globally

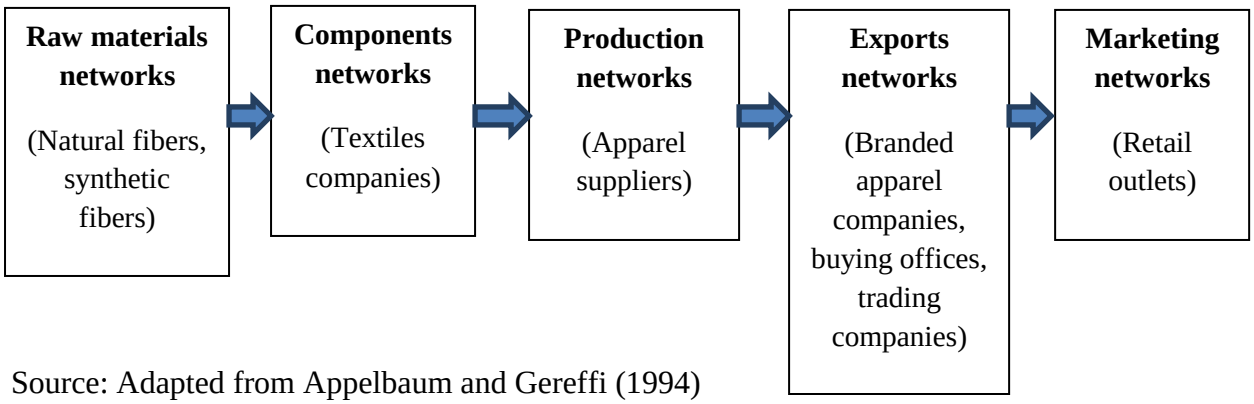
dispersed industries, global value chain (GVC) can be used as an analytical tool. Gereffi (1994) introduced the concept of Global Commodity Chain and later it was termed as the global value chain. GVC links the firms which are spread around the world. These firms perform a flow of interrelated activities to produce a product or service from its conception to the final distribution to the customer and even in ultimate disposal. UNIDO Industrial Development Report (2002/2003, pp. 105-106) explained that 'the GVCs are not just a teeming mass of complementary enterprises. They are an organized set of interconnected networks of enterprises linked with each other through multiple interactions and linkages – a worldwide web of inter-enterprise connections'. Therefore, organizations in the GVC which are a world wide web of inter-enterprise connections have longer term contractual arrangements between each other. Particularly this was explained by Tewari (2005) as, GVC framework concentrates on the global linkages in various economic activities such as designing, product development, production, branding, marketing and distribution.

According to GVC literature, globalization has promoted two types of international economic networks: producer driven and buyer driven (Gereffi, 1999). In producer-driven value chains, large usually transnational manufacturers play the central role in coordinating production networks in terms of both backward and forward linkages. This can be commonly found in capital and technology intensive industries like aircraft, computers, semiconductors, automobiles and heavy machineries. In buyer-driven value chains, large retailers, marketers and branded manufacturers (known as lead firms) play an important role in developing decentralized production networks in many exporting countries, mainly in developing countries. This can be commonly identified in labor-intensive consumer goods industries like garments, footwear, toys, handicrafts and consumer electronics. Producers in the developing countries supply the products by carrying out the production and the specifications are formulated by large scale retailers and marketers in developed countries. In this buyer-driven value chain, profits are mostly generated in combinations of high value research, designing, marketing and financial services. This buyer-driven nature of the apparel value chain is examined in the next section to understand the global buyers influence on Sri Lankan apparel suppliers.

Buyer-driven Apparel Value Chain

Apparel industry has shown the characteristics of the buyer-driven value chain. Gereffi and Memedovic (2003) mentioned that, there is an unparalleled diversification of garment suppliers in developing countries because of the low entry barriers and also the availability of protectionism policies by the developed countries. Five main parts can be identified in the apparel value chain and they are raw material supply, component suppliers, production network, export channels developed by trade intermediaries and marketing sector (figure 1). In this buyer-driven value chain, buyers are dominating the higher value added activities such as design, research and development (R&D), branding and marketing. Therefore, they have more power in the value chain than the suppliers in production networks who are mainly operating in developing countries including Sri Lanka. This can be referred to as a quasi-hierarchical governance structure where one party controls the other parties in the value chain (Humphrey and Schmitz, 2000).

Figure 1 Global Apparel Value chain



Source: Adapted from Appelbaum and Gereffi (1994)

Distribution of profits among these firms in the value chain is varied according to the geographical location, labor skills, technology, scale and type of the firm. There are low entry barriers for most of the garment factories in developing countries. The retailers and marketers have become the leading firms in the apparel value chain because they invest in higher advertising expenses to build brands and also in costly information technology in order to facilitate speedy sourcing from the suppliers from the developing countries. The distinction between manufacturing and marketing functions in the value chain has caused to develop ‘lean retailing’ which uses new information technologies like bar coding and point-of-sale scanning to gather sales

information about the products. Retailers also use electronic data interchange (EDI) and automated distribution centers for restocking. Therefore, this has contributed to the emergence of large retailers and it results in higher concentration of buyers and increasing buying power. Nordås (2004) pointed out that apparel value chain is a demand-pull-driven system, because the product conception is initiated by the customer ideas and then it decides the production structure. These global buyers collect market data and then decide what to produce under their suppliers in developing countries. Consequently, they have been able to acquire more power in the apparel value chain over the suppliers. This power difference is useful for them to undertake higher value added functions such as designing, branding, marketing and distribution in the apparel value chain. Moreover, the current growing retail concentration in buyer-driven value chains results in the expansion of global sourcing. Further, the emergence of intense global sourcing has intensified the competition between the players in the apparel industry.

Corporate Social Responsibility: Concept Clarification

The idea of modern CSR was started by Bowen (1953) and he pointed out that it shaped the lives of many people in several ways. Accordingly, he defined Social Responsibility (SR) or CSR in the following manner.

"*It (SR) refers to the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society*' (Bowen, 1953, p. 6). According to Bowen's ideas, social responsibility is not a solution for all the social problems a business experiences but it will be a proper guide for business in the future.

One of the mostly cited definitions on CSR is provided by Carroll (1979) as "The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time" (Carroll, 1979, p. 500). Later this taxonomy of CSR activities mentioned in the definition formed the pyramid of CSR (Carroll, 1991). Economic responsibilities concern with providing a return on investment for shareholders, creating jobs and fair salary for employees, finding out new resources, promoting technological improvements, innovations, and the development of new products and services (Jamali, 2007). With this perspective business is the basic economic unit in the

society and all the other roles of a business depend on economic responsibilities. Under the legal responsibilities, businesses are expected to fulfill the economic responsibilities within the legal requirements set by the societal legal system. These regulations are reactive in nature which allows little opportunity to be proactive. In the case of ethical responsibilities, business should reflect morality, justice and fairness and they need to do the right thing too. Therefore, it goes beyond legal responsibilities and the business is expected to respect people, avoid harm for the society and social injuries. The final responsibility deals with philanthropic contributions and concern with giving back to the society. The roots of this responsibility are available in the belief that business and society are intertwined in an organic way (Fredrick, 1994). This can be identified as the most controversial type of responsibility since it is conflicted with the economic objectives of the business.

Strategic Aspect of Corporate Social Responsibility

The strategic nature of CSR is firstly introduced by Fry *et al*. (1982) by pointing out that not only society should be benefitted from CSR but also the business organization. In other words, the idea of strategic CSR is to maintain an alignment of philanthropic activities with the business goals which results in the reconciliation of social and economic benefits. Moreover, Jamali (2007, p. 8) contended that 'strategic CSR can be defined widely to encompass any philanthropic activity that can result in long-term gain for the company'. Porter and Kramer (2006, p. 7) explained the opposite side of strategic CSR as 'Responsive CSR' which concerns on behaving as a good corporate citizen and mitigate the adverse impact from business activities. This is mainly targeted to create goodwill for the organization. Moreover, the mitigation of harmful effects of firm's value chain activities is an operational challenge. Since there are many value chain impacts, some organizations adopt a checklist approach for CSR. This can be identified as an excellent starting point, but it needs more proactive and well suited internal process. Moreover, Porter and Kramer (2006) pointed out that these responsive CSR initiatives provide advantages just for improving the operational performance and especially these advantages are temporary in nature. Strategic CSR goes beyond good corporate citizenship by removing harmful value chain impacts to initiatives whose business and social benefits are large and different.

Werther and Chandler (2010) examined the concept of strategic CSR in detail and the researcher believes that their work look at this concept comprehensively by relating to

earlier CSR literature. They defined strategic CSR as "The incorporation of a holistic perspective within a firm's strategic planning and core operations so that the firm is managed in the interests of a broad set of stakeholders to achieve maximum economic and social value over the medium to long term" (p.40). According to this definition strategic CSR is consisted of four key pillars and these are developed by associating with other relevant key literature (Carroll, 1999; Davis, 1960; Porter and Kramer, 2002, 2006, 2011). These are:

i. CSR Perspective

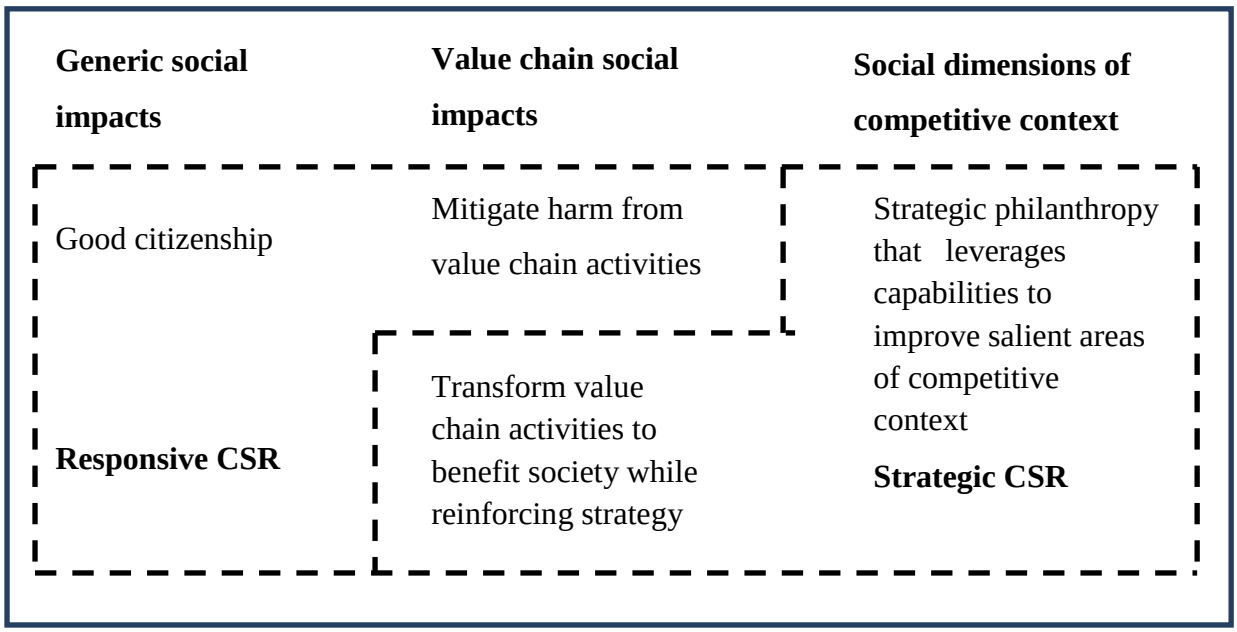
In strategic CSR firms need to incorporate CSR in the strategic planning process. Porter and Kramer (2006) developed a three-tiered framework to incorporate social issues into the strategy of the organization. They developed this as a guide for organizations to prioritize among stakeholders and the relevant social issues they have to deal with. Accordingly, there are three levels of interactions including:

- Generic social issues: Social issues that are not significantly affected by a company's operations nor materially affect its long-term competitiveness,
- Value chain social impacts: Social issues that are significantly affected by a company's activities in the ordinary course of business and
- Social dimensions of competitive context**:** Social issues in the external environment that significantly affect the underlying drivers of a company's competitiveness in the locations where it operates.

Porter and Kramer (2011) mentioned that from generally speaking those issues which are closely associated with the business including value chain social impacts and social dimensions of competitive context represent the greatest chance for creating shared value. Porter and Kramer (2011, p. 6) defined shared value as 'policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates'. The three approaches to create shared value are namely reconceiving products and markets, redefining productivity in the value chain and building supportive industrial clusters at the company's locations. Therefore, it is clear that shared value is also referred to the concept of strategic CSR since, shared value is all about achieving economic and social progress simultaneously, which is the underlying theme in strategic CSR (Lantos, 2001; Werther and Chandler, 2010).

As given in figure 2, strategic CSR is beyond the good corporate citizenship and mitigating harmful impacts from value chain activities which are the components of responsive CSR.

Figure 2 Strategic Approach to CSR



Source: Adapted from Porter and Kramer (2006, p.11)

ii. Core Operations

Werther and Chandler (2010) mentioned that strategic CSR actions are directly related to the core operations of the organization. They explained this using the following example in detail:

"It makes a great deal of sense for a company like Dell to offer a computer recycling program. It makes much less sense, however, for Dell to offer a 'plant a tree for me' program as a way for consumers to offset greenhouse gas emissions produced as a result of the production of their new computer" (p. 42).

Therefore, the strategic CSR actions should be derived from the core business activities in the firm. In exploring these firms can refer to the value chain activities in the organization. Porter and Kramer (2006) argue that "…for CSR to be strategic, CSR should contribute to firm value chain practices……". Therefore, through strategic CSR initiatives organization can redefine its existing value chain activities.

iii. Stakeholder Perspective

Organizations are required to identify different stakeholders and their interests and needs should be incorporated into the CSR activities in order to be strategic in CSR (Werther and Chandler, 2010). However, the problem of this situation is the conflict of interests of stakeholders. Therefore, firms need to deal with prioritization of stakeholder interests and needs. Particularly, organizations may provide more priority on shareholders than other stakeholders in the organization. However, some of the companies concern that multiple stakeholders are important for their corporate success.

iv. Medium to Long Term

In undertaking strategic CSR firms need to take a long term perspective to manage its stakeholders. The key constituents should be satisfied well in order to remain competitively in the long term. Specially, firms have to balance the competing interests of stakeholders to avoid the conflicts. The long term perspective of CSR is also highlighted by Davis (1960) and Carroll, (1999) as well. Particularly, they are in the idea that CSR is part of long term economic perspective of the organization which is unable to measure in terms of financial performance; instead it provides a valuable asset for future profitability. Moreover, this is termed as 'social power' in the organization which is resulted from stakeholder perspective. This idea is mainly available under the concept of sustainability i.e. businesses do not exist to pursue short-term profits, but to satisfy a variety of goals including the survival of the business and the prosperity of the environment in which it operates.

Research Methodology

This study is based on critical realist epistemology and, therefore, researcher adopts a qualitative case study strategy (Easton, 2000; Yin, 2009). The reason for selecting this research strategy is to provide more deep insights into CSR practices in Sri Lankan apparel suppliers. The sample consists of two large and two small scale apparel suppliers. These two types of companies are selected deliberately in order to obtain a more in-depth and diverse understanding about CSR practices in the global apparel value chain. Moreover, the global buying organizations of these apparel suppliers are also examined to gather data for the study. Purposive sampling technique is used in selecting the companies and this selection was based on their CSR practices.

Data collection is mainly based on secondary data sources. This consists of documentary evidence including CSR reports, sustainability reports, supplier compliance reports, annual reports, and home pages of the relevant organizations. This different documentary evidence enables triangulation as well in the study. Data analysis consists of using documentary analysis and synthesizes the findings in a cross-case synthesis. The cross-case synthesis examines what kinds of similarities and contradictions are available between the large and small scale apparel suppliers with respect to CSR practices.

Results

Case Study Apparel Manufacturers Profiles

Company A

This is the largest apparel exporting company in Sri Lanka and its annual turnover is over $1 billion. Currently, this company provides employment opportunities for more than 60,000 employees. They started operations in 1986 and currently it has 41 manufacturing plants. This company supplies their products to leading global buyers such as Victoria's Secret, Gap, Nike, Marks and Spencer, and Tesco. UN Global Compact recognized this company for embedding human rights into business practice. Moreover, company A was awarded for Women Empowerment at Asia's Best CSR Practices hosted by CMO Asia. Further, this company was awarded for its sustainability efforts by several organizations in the world.

Company B

This company started its operations in 2002 and its current annual turnover is over $600 million. They undertake operations in 42 factories by offering employment opportunities for over 47,000 employees. This company also supplies to world's leading apparel brands including Gap, Marks and Spencer, Next, JC Penney, and Target. Company B has been accredited SA 8000 Social Accountability standards and their green building received platinum rating from the US Green Building Council. Moreover, this company has been awarded numerous awards for its sustainability efforts.

Company C

This company started its operations just after the introduction of open economic policies in Sri Lanka in 1977. Currently, they undertake operations in 5 factories within Sri Lanka. Their turn over exceeds $ 75 million per year and it employs more than 6000 employees. The buyers of this company include world's leading apparel brands such as Marks and Spencer, Gap, Ralph Lauren, and Polo. This company undertakes various CSR activities aiming to benefit employees and local community. Therefore, this is also a company famous for its CSR activities within the areas of its factory operations.

Company D

Among the selected four companies this company has the lowest annual turnover and that is just over $55 million. They have their operations in 5 factories in Sri Lanka providing employment opportunities for over 5000 employees. This company started its operations in 1988. Currently, they supply apparel products to Connected Fashion, ENC, and Wal-Mart. This company is famous for its CSR activities in the areas where the factories are located.

CSR Initiatives of Global Apparel Buyers

The five global apparel buyers examined in the study seem to have explained their sustainability oriented CSR practices in their responsibility and compliance reports:

Gap Inc.

GAP Inc.'s Executive Vice President of Global Supply Chain stated:

"We invest in initiatives that will be transformative for our industry, our business and the people our business touches. Our legacy of commitment to sustainability…and improving factory working conditions is intrinsically part of that transformation."

(Report on Building the garment industry of the future, 2015)

Global Responsibility SVP at Gap stated:

"We know we're not perfect, but at least we try to be as transparent as we can be about how we make our product and treat our people."

(Social and environmental responsibility report 2009/2010)

Marks and Spencer

Marks and Spencer's Plan-A 2014 report states:

"This year we completed training for over half a million people who work in our General Merchandise supply chains (since 2010). We believe that training can make a huge difference to working conditions. Our training covered employment responsibilities and rights, basic healthcare and where possible, numeracy and literacy." (Marks and Spencer, Plan-A report, 2014)

Marks and Spencer's Plan-A 2014 report reiterates:

"By the end of this year, 85 of the clothing suppliers featured in our top 100 supplier list (based on 2011–2014 turnover) had introduced energy best practice for their lighting, insulation and temperature control systems – 37 more than in 2012/13. Of these, 53 had achieved our even more demanding eco-factory standards, compared with 35 in the previous year." (Marks and Spencer, Plan-A report, 2014)

Next PLC

Next's CSR report 2014 states:

"NEXT sources its products from many countries. Safety within the workplace is of paramount importance and we recognize the responsibility we have to the workers in our supply chain. We specify the requirements, before production can commence, that will provide workers with a safe and healthy environment, in accordance with all relevant local and international laws and legislation. We are committed to ensure NEXT product is made by workers who are treated with respect and paid fairly for the work they do." (Next PLC CSR report 2014)

Next's CSR report 2014 reiterates:

"The NEXT code of practice for suppliers (COP) has ten key principles, and it sets out the minimum standards and requirements for our suppliers in relation to workers' rights and working conditions, which include but are not limited to working hours, minimum age of employment, health, safety, worker welfare and environmental impacts. Our approach is to work with our suppliers to achieve the baseline requirements of our COP, and to encourage and support them to continually improve their performance." These ten key principles include: no child labor, freedom of association, healthy and safe working conditions, no forced labor, fair wages and

benefits, equal opportunities, employment security, respectful treatment of workers, reasonable working hours, effective management systems (Next PLC CSR report, 2014).

JCPenney

JCPenney's Supplier Compliance Report 2014 states:

"JCPenney is dedicated to preventing the sale of products produced at the expense of communities, workers or the environment. Since JCPenney is not the manufacturer of the finished consumer goods that we sell, we work with suppliers who share our commitment to a socially responsible supply chain and we expect our suppliers to:

• *Comply with all applicable laws and regulations and JCPenney's standards including certification requirements.*

• *Develop processes and procedures for ensuring that material, component and service providers also conduct their business operations in a socially responsible manner."* (JCPenney Supplier Compliance Report 2014)

JCPenney's Sustainability Report 2013 states:

"We are requiring management at the supplier and factory level to undergo training on a "core" curriculum of social responsibility topics. Working with an external partner, we have developed an e-learning package that includes a profile of each of our private brand suppliers and factories and a video explaining our values of transparency, continuous improvement and integrity. The package also includes lessons covering the following social and environmental responsibility issues: ethical sourcing, working hours management, hiring practices, health and safety, wage payment." (JCPenney Sustainability Report 2013)

(Appendix A) depicts that all of these four global buying organizations' CSR activities consist of four types of responsibilities identified by Carroll (1991).

Particularly, it seems that all the buyers want their apparel suppliers to incorporate these CSR initiatives in to their operations. The buyer-driven nature of these inter-firm connections (explained in buyer-driven apparel value chain) influence suppliers to consider these CSR initiatives seriously in their operations. Further, it seems that apparel suppliers are forced to incorporate CSR initiatives in to the manufacturing operations. Therefore, the dominant position keeping by the buyers in the global

apparel value chain allows them to formulate sustainability based collaborations with the suppliers.

Moreover, the researcher found that the social responsibility initiatives of the global buyers can be classified in terms of fair trade and eco-friendly initiatives which can have implications for apparel suppliers (see Table 1).

Table 1 Key Emergent Themes Pertaining to Global Buyers CSR Initiatives

Global buyer	**Fair trade initiatives**	**Eco-friendly initiatives**
GAP Inc.	Improving working conditions of factories, employees are deserved to be treated with dignity and respect, safe and fair working conditions, regular inspection of factories, prohibition of child labor and forced labor	Adherence to local environment laws, adoption of environmental management systems (EMS) in factories and environmental emergency plans, disposal systems with safe and legal manner, use organic cotton and eco-friendly packaging
Marks and Spencer	Protection of workforce rights (treated with respect, health care, safety), comply with national and local laws and regulations, label with the country of origin, regular assessment	Comply with national and local environment regulations, garments production by recycled polyester, organic wool and linen, starting eco-factory concept, using organic cotton
Next	Prohibition of child labor, healthy and safe working place, employment security, career opportunities without discrimination	Use organic cotton and textile made from recycled materials, recycled packaging, optimize energy use, protect local environment regulations
JCPenney	Prohibition of forced and child labor, ensuring work place safety, accurate country-of-	Energy conservation, recycled packaging, compliance with environment laws, waste

	origin labeling, compliance with all applicable labor laws, factory quality evaluation programs	management, garments from organic cotton, renewable and recycled materials
Target Stores Inc.	Protection of country-of-origin labor laws, global compliance ethical audits, safe and healthy work places, no forced and compulsory labor, no physical and punishment against employees, eliminate workplace discriminations, no child labor	Compliance to local environment regulations, recycled packaging, energy efficiency, garments produced by organic cotton fiber
Wal-Mart	Empowering workers and suppliers through training and capacity building, worker safety and well-being, transparent supply chain	Energy efficiency, responsible packaging, focusing on water stewardship, garments from organic cotton, recycled materials

Source: Compiled from relevant organizations' sustainability and compliance reports (2013 and 2014)

Influence of Global Buyers Initiatives on Sri Lankan Apparel Suppliers CSR Practices

In looking at four case study organizations, CSR initiatives have been mainly incorporated in two different ways: responsive CSR practices and strategic CSR practices (see table 2). All the four companies undertake responsive CSR practices in dealing with their local operations in Sri Lanka. Particularly, all these programs seem to be discretionary (philanthropic) in nature as pointed out by Carroll (1991) in the classification of responsibilities. In undertaking these discretionary activities, apparel suppliers have selected some of the social issues prevailed in the society (e.g. poverty, health issues, inequality and sanitation etc.). These social issues can be viewed as 'generic social issues' as conceptualized by Porter and Kramer (2006). Therefore, these are not significantly influenced by apparel suppliers operations and these social

issues will not affect the competitiveness of the apparel suppliers. Specially, these kinds of CSR practices are more commonly found among the two small-scale apparel suppliers compared to the large-scale two suppliers.

In examining the strategic CSR practices among the four organizations, there is a clear difference between large and small apparel suppliers. That is, strategic CSR is mostly practiced by large suppliers compared to the small suppliers. Employees' skills and career development can be identified as the only strategic CSR practice by two small-scale suppliers. In looking at the strategic CSR practices of large scale apparel suppliers the following features can be identified in line with the key pillars of strategic CSR (Werther and Chandler, 2010). Firstly, it is clear that those practices transform the value chain activities to benefit the society. For example, fair trade activities are part of their organizational value chain which benefits all the stakeholders involved in the operations. Secondly, these strategic CSR initiatives are directly derive from the core business operations of the apparel supplier. For example, the use of organic cotton is replacing their conventional cotton used for the production. Lowering energy and green buildings are also good solutions for their increasing energy costs. Employee training and their career advancements are effective solutions for enhancing the employee productivity and also for reducing the employee turnover. Thirdly, these suppliers consider different ideas and interests of the stakeholders in undertaking strategic CSR practices. For example, employee career advancement and skills development are critical for employees' success and to enhance their earnings. Lowering energy use benefits the society at large and as well as the ecology. Fair trade apparel is useful for all the stakeholders in the supply chain to earn a fair amount of income for their contribution. Fourthly, these strategic CSR initiatives have taken a long term perspective to manage its stakeholders. For example, the employee training, skills development and career advancement programs enhance employee loyalty and improve their productivity in the long run. Moreover, the use of organic cotton and production of fair trade apparel strengthen their relationships maintained with global buyers since these are main corporate practices of buyers as examined under the CSR initiatives of global buyers.

Table 2 Responsive and Strategic CSR Practices of Sri Lankan Apparel Suppliers

Case study organization	Responsive CSR practices	Strategic CSR practices
Company A (Large)	School curriculum development, uplifting sports, community donations, animal care, health infrastructure development, sports development	Employee career advancement, skills development of employees, work life balance, sustainable materials, carbon neutral products, promote organic cotton, lowering energy use, green buildings
Company B (Large)	Water conservation, blood donations, environmental preservation, health and water clinics, community development, assisting indigenous people	Personal and career advancement, employee training and empowerment, green textile processing, energy efficiency initiatives, use of organic cotton, produce fair trade apparel
Company C (Small)	Maternity clinics, health clinics, Provide facilities for schools, school renovation, community development	Employee career advancement
Company D (Small)	House construction for poor people, health care facilities, donations for hospitals, building facilities for temples, conduct eye camps to provide spectacles	Employee skills development

Source: Compiled from relevant organizations' sustainability and compliance reports (2013 and 2014)

In looking at the strategic CSR practices of large scale apparel manufacturers following two approaches pointed out by Porter and Kramer (2011) in creating the shared value can be identified.

- Reconceiving products and markets: Company A has focused on using sustainable materials such as organic cotton, eco-elastics, recycled nylon, and recycled polyester. In addition to that, this company started its own brand manufacturing (OBM) and these products are sold mainly in South Asian countries. Therefore, it seems that their OBM caters into markets where world's leading brands are not commonly available and this initiative can be considered as a reconceiving of markets. Company B also reconceives its products using sustainable materials such as green textiles and organic cotton.
- Redefining productivity in the value chain: Company A practices this approach through employee skills development, lowering energy utilization, use of biomass boilers, and constructing green building for operations. Company B also undertakes employee training and empowerment and energy efficiency initiatives.

In addition to that, CSR practices followed by these four apparel suppliers directly influence on employees and their social progress. Particularly, global buyers are pressurizing them to undertake these employee related initiatives with their compliance procedures. Therefore, the researcher developed the emergent themes with respect to social progress of employees by considering the ILO's 'decent work agenda' (see Table 3).

Table 3 Key emergent themes relevant to ILO Decent Work Agenda

Creating jobs	**Guaranteeing rights at work**	**Extending social protection**	**Promoting social dialogue**
Establish plants near rural villages, university scholarships for local youth, entrepreneurship workshops for local women business owners	Respect employees, prohibition of child labor and forced labor, protection of workforce rights	Improving working conditions of factories, safe and fair working conditions, provide transport to work, free meals, medical care, gender equality	Encouraging employees to learn, develop, contribute and achieve a work-life balance; eliminate workplace discriminations; employees are deserved to be treated with dignity; facilitate education

Source: Compiled from relevant organizations' sustainability and compliance reports (2013 and 2014)

Conclusion

This paper presents the increasing significance of CSR in the global apparel value chain and the CSR initiatives of global buyers. Thereafter, it found out how the global buyers' CSR initiatives shaped the CSR practices of Sri Lankan apparel suppliers. As per the findings, global buyers are increasingly adopting CSR initiatives in sourcing from apparel suppliers in developing countries. The four global buyers examined showed that their CSR initiatives take all the four types of responsibilities identified by Carroll (1991): economic, legal, ethical and discretionary. Even some buyers formulated a separate code of conduct in dealing with their suppliers. Based on these findings, the future competitiveness of apparel industry seems to depend on CSR initiatives. It may also provide alarm for apparel suppliers to adapt for the global buyers' CSR practices if they want to remain in the global apparel value chain. Further, researcher found that CSR initiatives of global buyers appeared in the forms of fair trade and eco-friendly initiatives. Since Sri Lanka is losing its competitive advantage in terms of lower cost in the global apparel industry, local suppliers initiated the 'garment without guilt' as a strategy to differentiate themselves.

Another important finding of this study is CSR initiatives of global buyers shaped the local apparel suppliers' CSR practices. More importantly, there are two kinds of CSR practices formulated by four Sri Lankan apparel suppliers: responsive and strategic CSR. All four apparel suppliers undertake responsive CSR practices irrespective of the size of the organization. This implies that all the organizations are moving towards adopting CSR practices. However, there is a significant difference between the two types of apparel suppliers selected for the study in the case of strategic CSR practices. According to findings, small scale apparel suppliers' strategic CSR practices are only limited to employee skills and career development whereas the large scale apparel suppliers undertake several types of strategic CSR and these practices depict key pillars of strategic CSR (Werther and Chandler, 2010). Further, researcher has found that these large scale suppliers' strategic CSR practices reconceive the products and markets of apparel suppliers. Therefore, CSR can be used to develop new products which are essential for Sri Lankan suppliers to enhance their decreasing market share in the global apparel market. Further, they can strengthen their existing niche marketing strategy based on sustainability initiatives through apparel produced from organic cotton and fair trade apparel. Researcher also found that reconceiving of

markets is also undertaken by large scale suppliers by entering into neighboring South Asian market. Further, these large scale suppliers redefine the productivity in their value chain using several approaches. Specially, the formulation of strategic CSR practices needs a close inter-firm connection between global buyers and Sri Lankan apparel suppliers. In this case, smaller scale suppliers are deviated from the global buyers and only the large scale suppliers were able to connect with them. Therefore, in the future, small scale suppliers can be deviated from buyer-driven apparel value chain on sustainability grounds. So, it is important to take necessary actions by the relevant authorities to connect smaller scale apparel suppliers with the global buyers based on strategic CSR initiatives. Finally, researcher found that the CSR practices influenced on the social progress of employees which is important for solving emerging human resource issues in the Sri Lankan apparel industry.

Therefore, by considering the findings of this study, the following key areas are proposed for future study. Firstly, as evidenced in the study findings, global buyers' CSR initiatives have a direct influence on Sri Lankan apparel suppliers. The future studies should investigate how to capitalize on these global buyers' CSR initiatives to enhance the competitiveness of apparel suppliers. Particularly, future research is needed to investigate why small scale suppliers deviated from strategic CSR practices and how to incorporate them with those emerging CSR initiatives to retain in the global apparel value chain. Moreover, apparel is considered as a foot-lose industry and this is currently evidenced by the fact some of the Sri Lankan apparel suppliers are shifting their production to low cost destinations. However, Sri Lanka can still be competitive through sustainability oriented apparel. Therefore, future research must focus on how the country should achieve competitiveness as an ethical and socially responsible apparel supplying destination.

References

Abernathy, F. H., Dunlop, J.T., Hammond, J. H. & Weil D. (1999). A Stitch in Time, Lean retailing and the transformation of manufacturing – Lessons from the apparel and textile industries, Oxford University Press.

Appelbaum, R. P. & Gereffi, G. (1994). Power and profits in the apparel commodity chain, in Edna Bonacich et al. (eds), *Global Production: the Apparel Industry in the Pacific Rim*, Philadelphia, PA, Temple University Press, 42-64.

Bowen, H. (1953). *Social Responsibilities of the Businessman*, New York: Harper.

Camarinha-Matos, L. & Afsarmanesh, H. (2005). Collaborative Networks: a new scientific discipline, *Journal of Intelligent Manufacturing* , 16(4), 439-452.

Carroll, A.B. (1979). A three-dimensional conceptual model of corporate social performance, *Academy of Management Review*, 4(4), 497–505.

Carroll, A.B. (1991). The pyramid of corporate social responsibility: toward the moral management of organizational stakeholders, *Business Horizons*, July-August, 34 (4), 39–48.

Carroll, A. B. (1999). Corporate social responsibility, *Business and Society*, 38(3), 268-295.

Davis, K. (1960). Can business afford to ignore social responsibilities?, *California Management Review*,2(3), 70-76.

Easton, G. (2000). Case research as a method for industrial networks: A realist apologia, in Ackroyd, S. & Fleetwood, S. (Eds.) *Realist Perspectives on Management and Organisations:* London: Routledge.

Frederick, W. C. (1994), From CSR1 to CSR2, *Business and Society*, 33(2), 150–164.

Fry, L.W., Keim, G.D. & Meiners, R.E. (1982). Corporate contributions: Altruistic or for-profit?, *The Academy of Management Journal*, 25(1), 94-106.

Gereffi, G. (1994). The organization of buyer-driven global commodity chains: How US retailers shape overseas production, in Gereffi, G. and Korzeniewicz, (ed), *Commodity chains and global capitalism*, Westport, Conn.: Greenwood.

Gereffi G. (1999). International trade and industrial upgrading in the apparel commodity chain, *Journal International Economics* 48(1), 37-70.

Gereffi, G. & Memedovic, O. (2003). *The Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries*? United Nations Industrial Development Organization.

Humphrey, J. & Schmitz, H. (2000). Governance and Upgrading: Linking Industrial Cluster and Global Value Chain Research, *IDS working paper 120*, Institute of Development Studies.

ILO (2005). *Promoting fair globalization in textiles and clothing in a post-MFA environment,* Sectoral Activities Program, International Labor Organization, Geneva.

Jamali, D. (2007). The case for strategic corporate social responsibility in developing countries, *Business and Society Review*, 112(1), 1-27.

JCPenney, Supplier Compliance Report (2014). Retrieved from http://ir.jcpenney.com/

JCPenney, Sustainability Report (2013). Retrieved from http://ir.jcpenney.com/

Lantos, G.P. (2001). The boundaries of strategic corporate social responsibility, *Journal of Consumer Marketing*, 18(7), 595–632.

Marks and Spencer, Plan-A report (2014). Retrieved from http://corporate.marksandspencer.com/media/b6867fa1340d482da1ebde62c099dd69

Next PLC, Corporate Social Responsibility Report (2014). Retrieved from http://www.nextplc.co.uk/corporate-responsibility/corporate-reports.aspx

Nordås, H.K., (2004). The global textile and clothing industry post the agreement on textile and clothing, World Trade Organization.

Porter, M.E. & Kramer, M.R. (2002). The competitive advantage of corporate philanthropy, *Harvard Business Review*, 80(12) 56-68.

Porter, M.E. & Kramer, M.R. (2006). Strategy and society: the link between competitive advantage and corporate social responsibility, *Harvard Business Review*, 84 (12),78-92.

Porter, M.E. & Kramer, M.R. (2011). Creating shared value, *Harvard Business Review*, 89(1/2), 62-67.

Report on building the garment industry of the future (2015). Gap Inc. Retrieved from http://www.gapinc.com/content/gapinc/html/sustainability.html

Social and environmental responsibility report (2009/2010-2013). Gap Inc. Retrieved from http://www.gapinc.com/content/gapinc/html/sustainability.html

Tewari, M. (2005). The role of price and cost competitiveness in apparel exports, Post-MFA: A review, *Working paper No 173*, Indian Council for Research on International Economic Relations.

UNIDO (2002/2003). Industrial Development Report, Competing through innovation and learning, United Nations Industrial Development Organization.

Werther, W.B. & Chandler, D. (2010). *Strategic Corporate Social Responsibility: Stakeholders in a Global Environment*, SAGE Publications, Inc.

Yin, R.K. (2009). *Case Study Research: Design and Methods*, SAGE Publications.

(Appendix A) CSR Initiatives of Global Buyers in Apparel Value Chain

Gap Inc			
Economic responsibility	**Legal responsibility**	**Ethical responsibility**	**Discretionary responsibility**
Supporting lower privilege communities through income earnings, capacity building of workers, focus on increasing local communities' income through sourcing	Code of vendor conduct in managing supply chain, Business Social Compliance Initiative	Community Program to train female garment workers (Personal Advancement and Career Enhancement), improve factory working conditions	Donations for victims of earthquakes, cash grants for communities
Marks and Spencer			
Creating employment opportunities, empowering suppliers	Carbon trust standard triple certification, FSC certification for cotton	Empowering people in the supply chain, improve financial literacy of workers through training	Provide health benefits for families, Cancer charities, Charities addressed through Oxfam and UNICEF, Helping vulnerable children
Next			
Develop suppliers' businesses, supporting home workers, capacity building of workers through	Specify the requirements before the production is started, abide by local and national	Safe and healthy working environment, maintain ethical trading standards, improve product	Charities in the areas of children, care for the sick, people with disabilities, healthcare, medical

training	laws, uphold international labor standards, code of practice for suppliers	safety, protect human rights	research and community support, help groups and organizations who do not have charitable status
JCPenney			
Develop internal capabilities of workers and factories, diversity and inclusion practices in employment	Comply with all applicable laws and regulations, and JC Penney's standards, Cooperate with legitimate government investigations, follow the employment and human rights laws of every country	Maintain independence and impartiality in all business relationships, eliminate or minimize significant threats to the environment, manufacture safe quality products, waste reduction, recycling	Grants and sponsorships, disaster relief, in-kind donations, community engagement through employee giving and volunteerism, improve lives and enrich communities in the areas of health, welfare, education, arts and culture

Source: Compiled from Gap Inc. Social and environmental responsibility reports 2009-2013; Marks and Spencer Plan A-Report, 2014; Next Corporate Social Responsibility report 2014 and home page and JCPenney Sustainability Report 2013 and Supplier Compliance Report 2014

HRM–Firm Performance Relationship: A Holistic View

N. Palagolla[1] and V. Wickramasinghe[2]

Abstract

There is an ongoing claim that the process of value creation between Human Resource Management (HRM) practices and firm performance is not clear in research and practice. Therefore, this research answers the long standing issue of how HRM influences firm performance using a multi–step mediation of employee work outcomes in a broader contextual consideration. Theoretical foundations are drawn from Resource Based View (RBV), Ability Motivation and Opportunity to participate (AMO) model, and the contextual perspective. Primary data were collected from 226 non–HRM managers employed in 42 public listed manufacturing firms using a structured questionnaire. Data analysis was mainly done with Partial Least Square–Structural Equation Modelling (PLS-SEM). Results confirmed the conceptualized mediation based on both measurement model and structural model analyses of PLS-SEM. These findings generalize the underpinned theories and contribute to the existing body of knowledge. The paper concludes with implications for research and practice and the limitations and areas for future research.

Key words: *Human Resource Management (HRM) Practices, HRM Effectiveness, Firm Performance, Employee Work Effort, Job Performance*

Introduction

Background

Almost all organizations in the globe are constantly making enormous efforts to improve firm performance with the ever increasing market competition by reducing costs and enhancing quality, productivity, efficiency, innovations etc. that has been the norm of the present day businesses. The human resource (HR) of an organization is the means by which all these efforts are enabled.

---

[1] Senior Lecturer, Department of Business Management, Sri Lanka Institute of Information Technology, Sri Lanka. nisha.p@sliit.lk
[2] Professor, Department of Management of Technology, University of Moratuwa, Sri Lanka. vathsala@mot.mrt.ac.lk

Therefore, it is a long-standing general consensus that HR in any organization is a pre-eminent organizational resource that can drive organizations towards the success or failure. HRM has greater importance in businesses than ever before which is regarded as a valued and very important asset and its effectiveness shows significant contribution to firm performance (Katou & Budhwar 2007). Therefore, the facts behind HRM stimulate managers and professionals in competitive businesses to re-think HRM as a value creation process that is able to meet higher firm performance through strategically focused employee work outcomes.

Research Problem and Aim

Although HRM–firm performance is a widely researched topic in strategic HRM (SHRM) arena during the past two decades, recent literature still highlights several issues. The most pressing issue has been the unclear process of value creation between HRM practices and firm performance (Guest 2011). In addition, literature also highlights limited attempts taken so far for assessing HRM effectiveness as well as the narrow focus of contextual factors influential in this relationship (Guest 2011). Consequently, there is an ongoing debate as to whether HRM–firm performance relationship exists in reality or it is merely rhetoric (Oladipo & Abdulkadir 2011). On these bases, HRM–firm performance relationship gains less credibility in practice.

The HRM-firm performance relationship in practice is more complex than it is conceptualized in most empirical studies. Having considered the recent calls for filling the dearth of comprehensive empirical studies on his phenomenon, this research aims to develop an integrated framework to explain how effective adoption of HRM practices (HRM effectiveness) influences firm performance.

Theoretical Review

Empirical findings gain less credibility unless which are not justified theoretically. Under theorizing has been one of the most attentive issues in SHRM (Fleetwood & Hesketh 2006; Guest 2011; Oladipo & Abdulkadir 2011). Consequently, theorized empirical explanations sound reliable and merit attention of both researchers and practitioners and hence make substantial contributions for the research field. Therefore, this research seeks theoretical foundation from various closely related theoretical phenomena as it is difficult for one theory to support all the aspects of the complex relationship between HRM and firm performance. Accordingly, the three

theoretical perspectives behind the conceptual framework of this research are RBV for the direct link between resources and performance (Barney 2001), AMO model for employee outcomes (Appelbaum et al. 2000), and contextual perspective for the influence of contextual factors (Martin-Alcazar et al. 2005).

The core concept behind the RBV is that firms with unique resources may enjoy superior performance than those who do not. In other way, the costly–to–copy attributes of firm resources are fundamental drivers of firm performance. RBV argues that the unique resources of the firms enable sustainable competitive advantage and in turn leads superior long–term performance of the firm. According to the AMO theory, firm performance is a function of employees' ability, motivation, and opportunity to participate (Performance = Ability + Motivation + Opportunity to participate). It means that firms' HRM practices to be consistent with the requirement of enhancing employees' ability, motivation, and opportunity to participate, which promotes employees' discretionary behavior towards firm performance. The contextual perspective is the latest theoretical model proposed for explaining the complex phenomenon of SHRM. This is a broader and an integrative model which encompasses HRM, organizational, internal, and external contexts in order to reconsider the relationship between SHRM and its context. In this sense, contextual approach to SHRM proposes the HRM system as a sub system of an organization which functions in a macro–social environment (Martin-Alcazar et al. 2005).

Hypotheses Development

HRMeffectiveness-employee work effort relationship: Employees are the most important resource of an organization as they constitute the human capital who executes competitive strategies towards higher firm performance. Therefore, the main purpose of firm's HRM function is to enhance employee effort and in turn performance at work in ways that lead to effective execution of firm's strategies. For this purpose, effective design and implementation of HRM practices (HRM Effectiveness) is essential since ultimately employees become the direct recipients of HRM services. Some empirical studies have asserted positive relationship between HRM and work effort among different employee groups in different contexts. For instance, high commitment HRM practices for clerical and semiprofessional workers have enhanced the work effort of these two employee groups in professional services firms (McClean & Collins 2011). As Brown and Leigh (1996) elaborated in a slightly

different perspective, employee effort is likely to be sensitive to employees' perceptions of psychological climate in the workplace. Therefore, when employees feel that the organization accommodates their psychological needs at work, they are likely to devote their time and energy in the work of the organization (Appelbaum et al. 2000; McClean & Collins 2011). On the whole, it is hypothesized that:

Hypothesis 1 (H1): The greater the HRM effectiveness of the firm, the greater the employee work effort in the firm.

Employee work effort-job performance relationship: The success or failure of one's job strongly depends on the extent to which they exert at work and there is no any other substitute for this. As mentioned earlier, the assertion between employee work effort and job performance is theoretically well established by the AMO theory in which performance has been identified as a function of the core constituents of employee work effort (Appelbaum et al. 2000). Though effort–performance link has received relatively less attention in HRM, it is well recognized in the long past in other disciplines particularly in the job design/characteristics and motivation and commitment related models (Ingram et al. 1989). Brown and Leigh (1996) found positive relationship between salespersons effort and performance in three different manufacturing firms. Interestingly, Piccolo et al. (2010) in an attempt of drawing on an original job characteristic model confirmed that how hard a person tries on an assignment results increased task performance. Christen et al. (2006) found positive relationship between store manager's effort and job performance. According to Menguc (1996), the direct relationship between salespersons effort and performance was highly significant. Consistent with the extant theoretical and empirical literature, employees who exert higher levels of effort at work are expected to yield higher level of job performance. Likewise it is hypothesized that:

Hypothesis 2 (H2): The greater the employee work effort, the greater the employee job performance.

Job performance-firm performance relationship: High performing workforce is a firm's strategic asset as it directly contributes to firm performancewhich is the underlying concept of the RBV (Barney 2001). Therefore, Barney classified such a workforce as the human resource under his original resource classification. Human resource is the driving force of the firm and hence it is to be given a top priority than

the physical capital of the firm. In fact, human resource is the only live resource of an organization that is capable of managing all the other peripheral resources towards strategic business objectives. In support, Wright and McMahan (1992, p.299) proposed a conceptual model of theoretical frameworks for studying SHRM in which a sequential path: HRM practices–>human capital pool–>HR behaviors–>firm level outcomes has been conceptualized. As he noted in line with the behavioral approach, employee behavior is the mediator between firm strategy and firm performance. This has been well asserted by some of the empirical studies. For instance, Ketkar and Sett (2010) note that employee performance as a direct source of firm's operating performance. In a similar vein, Ferguson and Reio (2010) found job performance as a direct source of firm's financial performance. Christen et al. (2006) supported the hypothesized link between job performance and firm performance. On this basis, it can be hypothesized that:

Hypothesis 3 (H3): The greater the employee job performance, the greater the firm performance.

Having paid attention to the theoretical and empirical justifications for the above 3 relationships: (1) HRM EFFECTIVENESS -> WORK EFFORT, (2) WORK EFFORT -> JOB PERFORMANCE, (3) JOB PERFORMANCE -> FIRM PERFORMANCE, it can be hypothesized that:

Hypothesis 4 (H4): HRM effectiveness affects firm performance through the mediation of employee work effort and job performance in sequence.

HRM staff competence-HRM effectiveness relationship: The contextual influence on organizational functions is well theorized by Martin-Alcazar et al. (2005). HRMstaff competence implies the state-of-the-art HR knowledge, expertise and skills required for performing excellently (Malik & Aminu 2011). Therefore, it basically represents professional, technical, and business-related knowledge, skills and capabilities of the HRM practitioners which facilitate the effective design and implementation ofHRM policies and practices. As research point out, these competencies help the HRM staff to "know the company's business and understand its economic and financial capabilities necessary for making logical decisions that support the company's strategic plan based on the most accurate information possible" (Malik & Aminu 2011, P.322). The resource–based literature shows that a firm can

achieve sustainable competitive advantage by the effective utilization of its competitive competencies in ways that can establish and maintain a unique operational focus. Chung and Kang (2013) point out HRM staff competence as a source of HRM department power that leads to HRM effectiveness. Given this background, the following hypothesis is offered.

Hypothesis 5 (H5): The greater the HRM staff competence, the greater the HRM effectiveness in the firm.

HRM leadership-HRM effectiveness relationship: Leadership behavior is important to influence employee attitudes and behavior through the way of managing people (Purcell & Hutchinson 2007). Differences in leadership may influence the way HRM practices are designed and implemented. In response, it makes changes in employee-level outcomes and, in turn, firm-level outcomes. Therefore, the relationship between Head of HRM leadership and HRM effectiveness would add an important finding for HRM research. Ardenne (2011) points out that though there is abundant of research on effects of leadership styles, the effect of HRM leadership on HRM effectiveness has not been researched. Active leadership found a highly significant positive correlation with effective HRM implementation ($r = 0.79$; $p = 0.00$) and passive leadership found a highly significant negative correlation with effective HRM implementation ($r = -0.66$, $p = 0.00$) (Ardenne 2011). Another well published research revealed that human capital enhancing HRM mediates the relationship between CEO transformational leadership and subjective assessment of organizational outcomes (Zhu et al. 2006). Eddy and Sears (2012) revealed that the CEO leadership styles have considerable influence on the implementation of organizational diversity practices. It means that the leadership has an influence on organizational practices and outcomes. Having considered these important aspects, it is hypothesized that:

Hypothesis 6 (H6): The greater the effectiveness of HRM leadership, the greater the HRM effectiveness in the firm.

Labour market demand-HRM effectiveness relationship: Labour market can be understood as the mechanism through which human labour is bought and sold as a commodity and the means by which labour demand is matched with labour supply. Organizations have to have right workers with right skills, knowledge, and attributes

in the proper positions in order to achieve strategic business objectives. As such, a systematic relationship exists between workers and work organizations. Therefore, labour market context inevitably shapes the approach a firm takes to HRM (Warner 2001). Organizational approach to HRM is dependent on the extent to which the demand for appropriate labour both in number and quality (skilled employees) and the availability of appropriate supply. Thus, changes in labour market conditions demand a new approach to the management of human resource (Cesyniene et al. 2013). For instance, lack of skilled employees in the market may incur investments in training and development practices as well as greater degree of job mobility or huge job market competition for skilled labour will lead to the adoption of attractive pay and benefits HRM practices. Yang (1992) found labour market competition as a very important factor influencing the content of HRM policies in Japanese firms. These scholarly opinions and empirical research findings are supportive to hypothesize that:

Hypothesis 7 (H7): The greater the labour market demand, the greater the HRM effectiveness of the firm.

Methodology

Conceptual Framework and Operationalization of Variables

The focus of this research is in fact to develop a comprehensive multiple-step mediating model for HRM effectiveness and firm performance relationship in order to comprehend how effective HRM practices affect overall firm performance. The full conceptual framework for the purpose of this research is presented in Figure 1. The independent variable (IV) in the proposed model is HRM effectiveness that refers to the extent to which HRM practices are designed and implemented effectively.With that in mind, this research has adopted multiple-item 5-point Likert scale related to eight dimensions namely, formal process, method, knowledge, fairness, participative decision making, control, timeliness, and update for the measurement of HRM effectiveness (Opatha 2012; Serasinghe & Opatha 2007). The dependent variable (DV) is overall firm performance which refers to the achievement of financial and non–financial objectives of the firm. Three measures of financial as well as non-financial performance have respectively been adopted in this research namely profit, sales growth, operating cost, quality, employee turnover, and customer base (Gomes et al. 2011).

Most importantly, there are two mediator variables which are employee work effort and job performance in sequence. On the one hand, employee work effort refers to the extent to which employees exert at work (Brown & Leigh 1996; Piccolo et al. 2010). In addition to the core constituents of AMO theory (Appelbaum et al. 2000), past conceptual as well as empirical work have established the link between HRM and employees' career/job commitment and also employee job commitment as a core constituent of employee work effort (Whitener 2001). Therefore, work effort in this research is assessed through four factors namely, job competence (ability), work desire (motivation), work freedom (opportunity), and job commitment of the employees. On the other hand, Job performance has been variously defined in the extant literature but they exhibit some common features. Having considered some of the past seminal work, this research has measured employees' level of achievement of task, contextual and counter-productive work objectives/responsibilities at work based on seven dimensions namely, quantity, efficiency, accuracy, creativity, presence, adherence, and wastage.

Also, there are three antecedent variables (AVs) which are namely, HRM staff competence, Head of HRM leadership, and labour market demand. HRM staff competence is HRM staff's knowledge, skills, and ability to do their job well which are, therefore, measured by those three constituents in this research. Head of HRM leadership is the Head of HRM's ability and qualities in leading the staff which is measured through six dimensions related to proactiveness, self-initiativeness, self-confidence, persistence, persuasiveness, and adaptability. Labor market demand is the extent of the job market opportunities for employees which is measured based on four dimensions namely, opportunity, scarcity, mobility, and competitiveness.

The framework integrates four firm attributes as control variables (CVs) namely, technological intensity, financial strength, past firm performance, and market competitiveness. These firm attributes are in fact firm resources and capabilities as they intuitively help achieving competitive advantage (Barney 2001). The influence of these factors has changed the business world many times over. Their influence on firms' diverse functions seems to be increased significantly. The influence of these factors on HRM and employee and firm level outcomes is ever-increasing and which have made dramatic changes (Dauda & Akingbade 2011; Gavrea et al. 2012; Imran et al. 2014).On these bases, the influence of these four exogenous variables on the

independent variable, mediation variables, and dependent variable are taken here into consideration in order to examine a holistic view of the HRM-firm performance relationship.

Sample and Data: Research covered 42 publicly listed manufacturing firms (PLCs) where 100 or more workers are employed, having 10 years or more lifetime and located in the Western Province in Sri Lanka as per the Colombo Stock Exchange statistics as at 31 December 2013. The reasoning behind this stratification is to choose firms with standard HRM system to support the major aim of this research.

A structured questionnaire based survey was adopted to collect quantitative data for the purpose of this research. A total of 226 non–HRM managers (at least 3 from each firm) with at least three years of experience in the same firm were chosen on purpose to be participated in this research. The reason for the selection of managers with at least 3 years of experience is the knowledge required to respond to this survey and the reason for the selection of non-HRM managers is to avoid biasness and assure the reliability of data gathered. In support, literature also points out that the data have lowest chance to be biased if taken from different managers (Ahmad & Schroeder 2003).

Unit of analysis: The unit of analysis of this research is the firm and the multi-rater response approach (multiple respondents from each firm) was adopted.

Data analysis: Testing of hypotheses is mainly based on partial least square structural equation modeling (PLS–SEM) technique using SmartPLS v. 2. The main purpose of applying PLS–SEM here is to conduct Confirmatory Factor Analysis (CFA) for assessing the measurement model and the structural model.

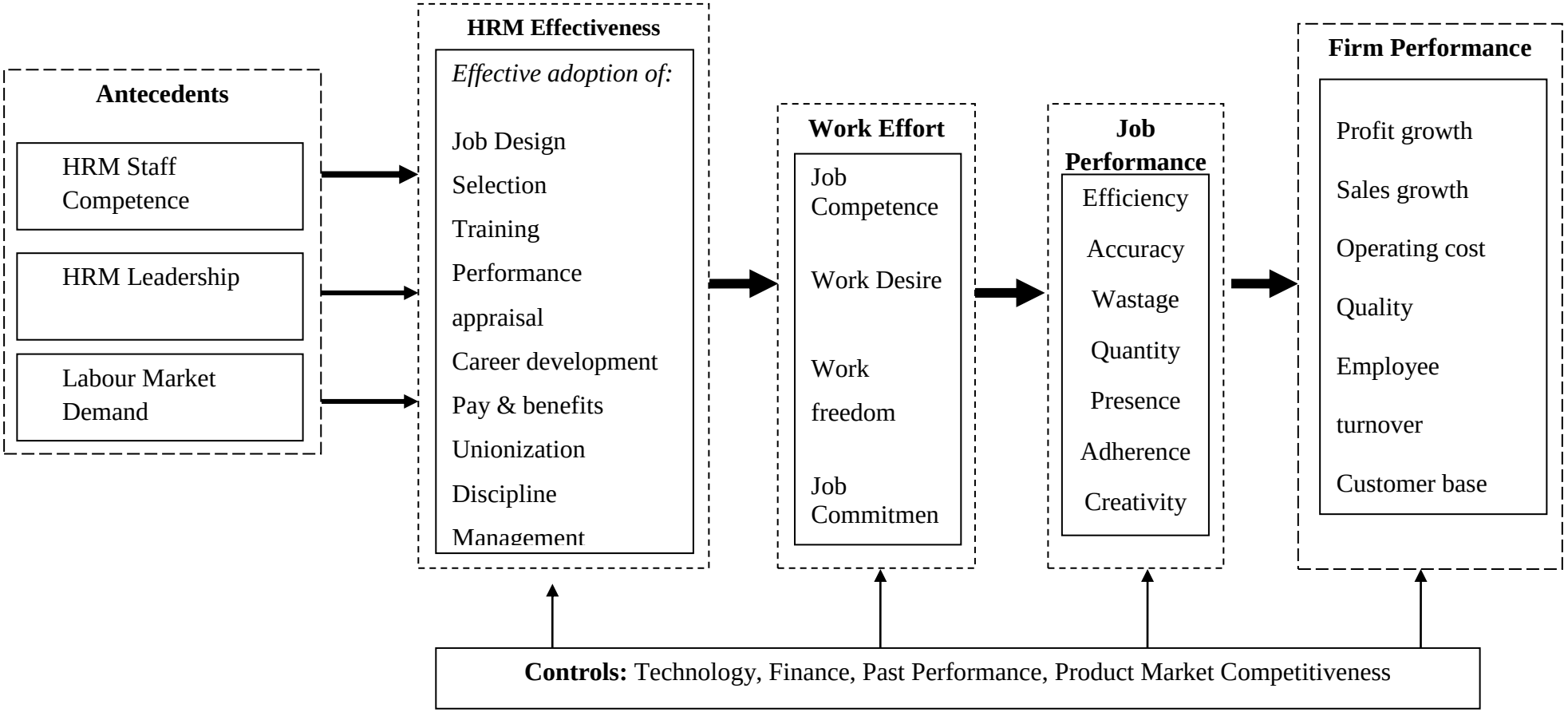


Figure 1: The proposed conceptual framework–a holistic view of the HRM-firm performance relationship

KEY TO VARIABLES: (1) HRM Staff Competence **(COMPTE)** **(2)** HRM Leadership **(LEADER)** **(3)** Labour Market Demand **(MKTDEM)**
(4) HRM Effectiveness **(HRM)** **(5)** Work Effort (**WEFFORT)** **(6)** Job Performance (**JOBPER)**
(7) Firm Performance **(FIRMPER)** **(8)** Technological Intensity **(TECH)** **(9)** Financial Intensity **(FINA)**
(10) Past Performance **(PASTP)** **(11)** Product Market Competitiveness **(COMPITI)**

Results and Discussion

Measurement model assessment: Outer loadings of all the indicators are much greater than the minimum acceptable level of 0.4 and almost all indicators have reached beyond the preferred level of 0.7, thus the strength of the indicators to measure each construct is very high.T–Statistics of all these indicators are far beyond the minimum threshold significant level of 1.96 at 5% significant level. The T–Statistics are even much higher than the maximum threshold significant level of 2.58 at 1% significant level. Thus, the significance of all the eight outer models is very well assured. Indicator reliability (Outer loading^2) of all these indicators has reached the minimum acceptable level of 0.4 and the majority of the indicators are close to the preferred individual indicator reliability level of 0.7. Therefore, the extent to which an indicator or the set of indicators of each first level construct of HRM is consistent regarding what it extends to measure is acceptable. The internal consistency reliability can be used to measure composite reliability of each construct. It is much greater than the preferred level of 0.7 for all the eight first level latent constructs of HRM. Thus, each set of indicators are highly reliable for measuring the underlying theme of each construct. The average variance extracted (AVE) estimation of each construct is higher than the minimum acceptable threshold level of 0.5. Thus, these constructs explain more than half of the variance of their indicators. Therefore, convergent validity of these constructs is confirmed.

Given the overall evidence, the measurement model of the proposed conceptual framework is reliable and valid to proceed without dropping any items. Therefore, it can be asserted that the strength of the measurement model is very high and that is a good sign for the assessment of the underlying complex phenomena of this research.

Structural model and hypotheses testing: The initial structural model was refined through an iterative analytical process using PLS algorithm (path coefficients: PC) and Bootstrapping (T–Statistics). In each run, the highest non–significant structural path as per T–Statistics was removed from the model for assuring the structural as well as the entire model fit. In sum, a total of 6 structural paths were dropped as they were being not significant. The path coefficients of higher than the minimum threshold level of 0.1 are said to be statistically significant. Also, the size of the path coefficient represents the strength of the hypothesized path between two latent constructs. The standardized path coefficients of the hypothesized paths are higher

than the minimum acceptable path coefficient level of 0.1 thereby being significant (Figure 2).The bootstrapping T-Statistics reveal that the structural paths in the structural model (Table 1) are significant as they are well loaded above the minimum threshold level of 1.96 at 5% significance level. Also, the majority of the paths are loaded much higher than the maximum threshold level of 2.58 at 1% significance level. Consequently, based on the T–Statistics, these structural paths between the latent constructs are well accepted and almost all linkages are, in most contexts, practically credible. The following sections discuss hypothesized paths along with the influence of the four control variables considered in this research.

Table 1: T – Statistics of the Structural Paths

No.	Structural Path	T-Statistics
1	COMPTE -> HRM	5.86
2	LEADER -> HRM	5.64
3	MKTDEM -> HRM	3.49
4	TECH -> HRM	4.02
5	HRM -> WEFFORT	5.60
6	PASTP -> WEFFORT	6.48
7	FINA -> WEFFORT	2.01
8	COMPITI -> WEFFORT	2.42
9	WEFFORT -> JOBPER	10.41
10	TECH -> JOBPER	4.67
11	FINA -> JOBPER	4.11
12	COMPITI -> JOBPER	4.47
13	JOBPER -> FIRMP	26.39
14	TECH -> FIRMP	4.04
15	PASTP -> FIRMP	2.53
16	COMPITI -> FIRMP	3.99

Source: survey data: 2014

As per PLS-SEM output of SmartPLS v. 2 shown in Figure 2, R^2 is being 0.415 for WEFFORT. It senses that HRM (PC = 0.306) together with three exogenous constructs respectively PASTP (PC = 0.323), FINA (PC = 0.120), COMPITI (PC = 0.145) explain 41.5% of the variance in WEFFORT. In this case, the effect of PASTP on WEFFORT merits attention as it is slightly higher than the effect made by HRM. Accordingly, this data reveals a very important finding that HRM has a dual effect on WEFFORT. As per the final path model, one is the direct effect of HRM on WEFFORT and the other is the reciprocal effect of FIRMPER on WEFFORT through PASTP. Accordingly, the hypothesized path reveals that HRM enhances WEFFORT (R^2 = 0.415), JOBPER (R^2 = 0.757), and FIRMPER (R^2 = 90.5) in sequence.

Interestingly, this data also reveals that PASTP has the highest direct influence on WEFFORT. This is the reciprocal influence of FIRMPER on WEFFORT which was also contributed by HRM. The reasoning behind this is that employees usually like to exert at work when they work for a well performing firms. Well performing firms are generally well established firms and hence employees in such firms are given a good recognition, higher social status, and a good remuneration package. Further, working in such firms, employees get immense opportunities to improve their job competence, employees enjoy a lot of benefits that enhance their work desire and job commitment, and well performing firms have well defined jobs that provide attractive work freedom at work. Overall, this research shows that PASTP has made a slightly higher influence on WEFFORT than the influence made by HRM. Therefore, firms with effective HRM have a direct effect on WEFFORT towards FIRMPER as well as it effects WEFFORT as a cycle through PASTP of the firm. Most strikingly, this research opens new avenues for future research for studying both direct and reciprocal effects of HRM on WEFFORT. In addition, COMPITI (PC = 0.145) and FINA (PC = 0.120) of the firm respectively have slightly contributed to enhance WEFFORT. Overall, these four factors can only contribute enhancing 41.5% variance in WEFFORT and there may be many other factors that can influence WEFFORT. These findings have substantiated hypothesized link between HRM effectiveness and employee work effort (H1).

The R^2 is 0.757 for job performance (JOBPER). It senses that WEFFORT (PC = 0.576) followed by three exogenous variables respectively TECH (PC = 0.210), COMPITI (PC =0.172), and FINA (0.162) almost substantially explain 76% of the variance in Job Performance. According to the data, the highest contribution to explain JOBPER has been WEFFORT. Consequently, the data are in line with the practice where WEFFORT has been the most influential source of JOBPER. This is a credible truth and there is no any other substitute to replace it. Accordingly, the link of higher the effort higher performance could be observed. Impressively, TECH comes next to predict JOBPER but it does not contribute to WEFFORT. WEFFORT is in fact more or less a psychological state and thus TECH is not capable of making the employees psychologically prepared to exert at work. This is another fact that can be seen in real life. Employees' JOBPER would be enhanced where TECH is high as it helps employees to work effectively and efficiently. COMPITI and FINA also

slightly contribute to JOBPER as they can work as incentives for the exertion. Having considered the direct relationship between employee work effort and job performance, it can be asserted that hypothesis 2 (H2) has been substantiated.

The R^2 is 0.905 for firm performance (FIRMPER). It senses that JOBPER (PC = 0.776) followed by three exogenous variables respectively, TECH (PC = 0.115), COMPITI (PC = 0.103), and PASTP (PC = 0.070) substantially explain 90.5% of the variance in FIRMPER. This is a remarkable contribution to FIRMPER. The highest contribution was made by JOBPER which is over three fourth of the variance in FIRMPER. In considering the exogenous constructs, the direct effect of TECH, COMPITI, and PASTP are relatively low and FINA has not shown a direct effect on FIRMPER. It is true that these exogenous constructs may probably affect FIRMPER indirectly rather than affecting directly. FIRMPER is the ultimate goal of the firm and hence this research provides a useful input particularly for the practitioners to spend on HRM effectiveness that will definitely be a long–term investment. The finding related to the direct link between employee job performance and firm performance (H3) is therefore substantiated.

On the whole, PLS - SEM for testing the mediation is then carried out. Results in Table 2 and 3 provide a strong support to substantiate the hypothesis 4 (H4). The SEM statistics evidence that the proposed path for this mediated relationship is being highly significant (PC>0.1; T>1.96). Also, the variance explained in each path (R^2) is considerably large and additive.

Table 2: PLS-SEM results for testing the mediation (H4)

H	**Structural path**	**PLS-SEM Statistics**				
		PC	**T**	**R^2**	**f^2**	**q^2**
H1	HRM -> WEFFORT	0.306	5.60	0.415	0.14	-
H2	WEFFORT ->JOBPER	0.576	10.41	0.757	0.93	0.424
H3	JOBPER -> FIRMPER	0.776	26.39	0.905	2.79	0.747

Source: Survey data: 2014

H = Hypothesis; PC = Path Coefficient; T = T – Statistic; R^2 = Coefficient of determination

f^2 = Effect size of exogenous construct; q^2 = Effect size of mediators

According to the final structural model (Figure 1), the total variance in the HRM -> WEFFORT path is 41.5% (R^2 = 0.415), it is approximately 76% (R^2 = 0.757) in the WEFFORT -> JOBPER path, and the variance of JOBPER -> FIRMPER path is 90.5% (R^2 = 0.905). In an extension to this analysis, f^2 hints the effect size of the exogenous construct of each path. Accordingly, HRM (f^2 = 0.14) has almost moderate effect (f^2 close to 0.15) on WEFFORT. In turn, WEFFORT (f^2 = 0.93) has an extremely large effect on JOBPER (f^2> 0.35). In a similar vein, JOBPER (f^2 = 0.747) has an extremely large effect on FIRMPER (f^2> 0.35). In addition, the q^2 value shows the effect size of the mediators which are also above the maximum cutoff level of 0.35. Accordingly, both the mediators make highly significant path because the effect size on the respective endogenous construct of the mediation path (WEFFORT -> JOBPER) is extremely high (f^2> 0.35) and also additive (0.424 -> 0.747). All in all, the proposed mediation through WEFFORT -> JOBPER is a very reliable and valid path to link HRM and FIRMPER as the path with this data has been highly significant in the process of value creation. In support, Table 3 evidences the predictive relevance of all the endogenous constructs in the proposed model.

Table 3: Predictive relevance (Q^2) for the proposed causal link

Endogenous Latent Construct	**Q^2**
HRM	0.4877
WEFFORT	0.4106
JOBPER	0.5789
FIRMPER	0.7136

Source: Survey data: 2014

The Q^2 scores are greater than the maximum threshold level of 0.35 thereby higher level of predictive relevance for these four constructs in the mediated HRM – FIRMPER relationship is secured. Therefore, hypothesis 4 (H4) is sought strong acceptance in this study. This finding adds new insight to the literature as this proposed path is in fact very comprehensive as well as not being either abstract or too lengthy.

According to the PLS–SEM findings of antecedent variables of HRM in Figure 2, R^2 is 0.529 for HRM. It senses that four exogenous variables: HRM staff competence (COMPTE)(PC = 0.365), HRM leadership (LEADER) (PC = 0.296), labour market demand (MKTDEM) (PC = 0.205), and technology (TECH) (PC = 0.183)

respectively explain over one half of the variance in HRM, which is approximately 53% variance in HRM. This is practically observable finding where HRM has been effectively designed and implemented. As HRM staff is the key players of HRM effectiveness in any firm, COMPTE in terms of Knowledge, Skills, and Ability (KSA) is being the most important prerequisite. Without sufficient competence, Head of HRM is usually not able to maintain good leadership, HRM staff would not be able to adapt HRM practices in response to MKTDEM, and make effective use of technology. HRM in fact the core of the business as it provides the mechanism to win the hearts and minds of the human capital the so called 'driving force' of the firm. Overall, these firms possess competent staff in the HRM department and given tremendous contribution to effective HRM in the firm. Data also reveal that the Head of HRM plays a good role in HRM that has been credible by the contribution of LEADER to HRM (PC = 0.296). As great leaders lead great teams, Head of HRM of the firms must have gained a good recognition. LEADER is in fact a dependent construct on COMPTE since a good level of COMPTE builds the confidence for effective leadership. Data also reveal that there is a higher MKTDEM and it has directly influenced on HRM (PC = 0.205). In other way, these firms use HRM as a tool to retain workforce by responding to MKTDEM. Both COMPTE and LEADER are equally important to respond MKTDEM. Moreover, nowadays technology has come up to influence every aspect of the business. It is also obvious here in this data, yet TECH makes a slight contribution (the least of the four) to predict variance in HRM. This is in a way a good finding for the well–being of the firm. As these firms are well established, the contribution of TECH in HRM has not been an exceptional finding. These findings have substantiated the hypothesized links of H5, H6, H7 in relation to the three antecedent variables of HRM effectiveness.

Conclusion

Testing of hypothesized relationships as per Figure 1 using PLS-SEM analyses evidenced that HRM effectiveness is related to firm performance through employee work effort and job performance in sequence. The findings in relation to the dimensions of work effort, effective design and implementation of HRM practices (HRM Effectiveness) enhance employee job competence, work desire, work freedom, and job commitment which in concert stimulate employee work effort that in turn give rise to employee job performance. Finally, employee job performance directly

increases firm performance. Therefore, HRM effectiveness is an important dimension of firm performance. Importantly, four driving forces of HRM effectiveness merit attention, which are respectively, HRM staff competence, HRM leadership, labour market demand, and technology. The results confirmed that firm's internal and external contextual factors significantly influence on effective design and implementation of HRM practices in the firm. Further, technology, financial intensity, past firm performance, and market competitiveness are found to be directly influential on both employee work outcomes and firm performance. On the whole, this research provides very useful information for the HRM practitioners and the top management alike in order to pay considerable attention to HRM effectiveness as it sheds lights to enhance firm performance whilst attaining strategic business objectives. Therefore, overall findings of this research help to re-think HRM as an investment to be maximized rather than thinking it as a cost to be minimized. Future researchers may find the proposed conceptual framework in this article as a useful template. However, it should be taken with care that no models can be developed to fully cover all the aspects in practice in different contexts. In the circumstance, the proposed model has given emphasis on the most influential aspects of the HRM-performance relationship.

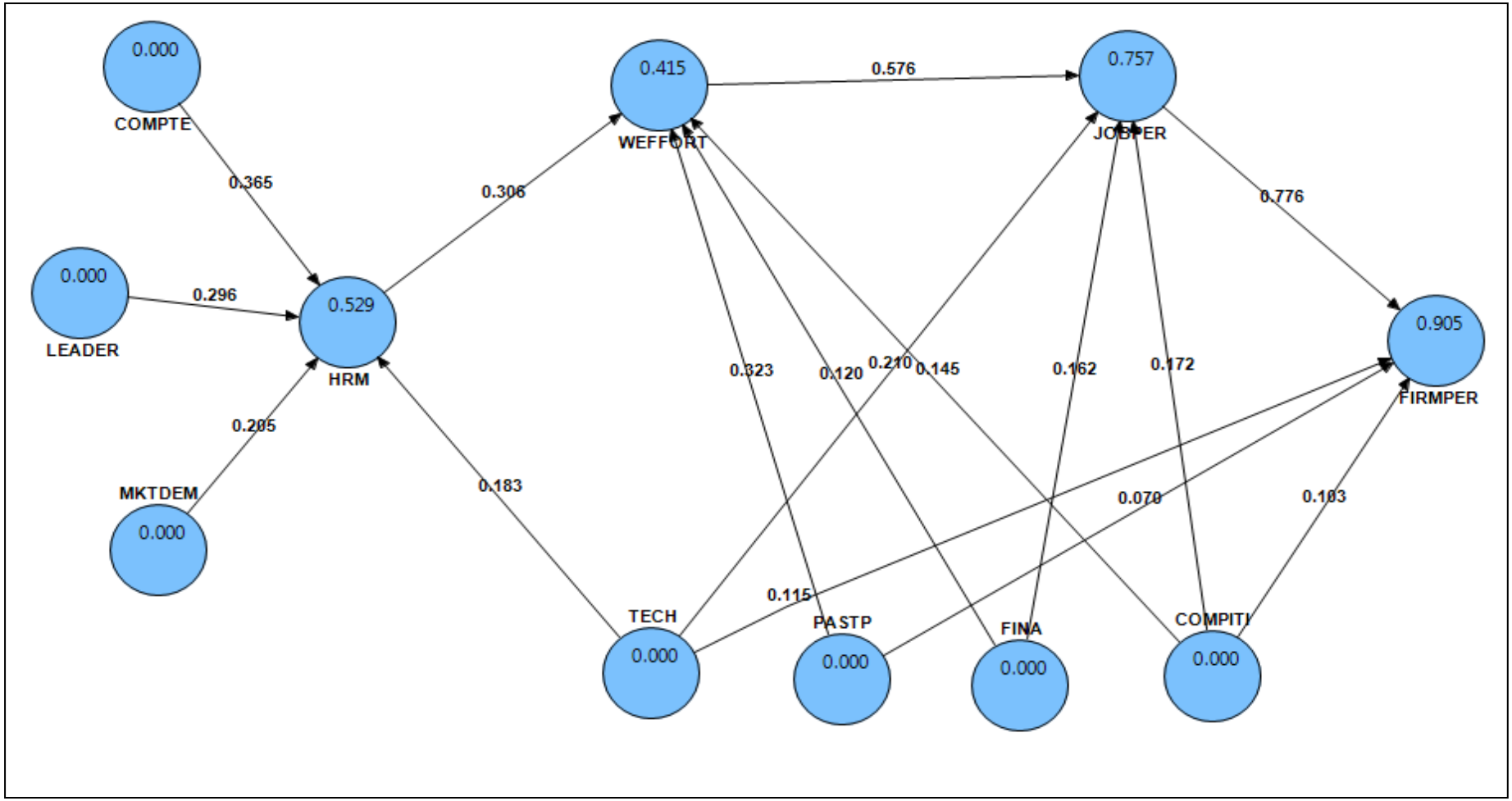


Figure 2: Structural path model of the multi-step mediation between HRM effectiveness and firm performance

KEY TO VARIABLES: **(1)** HRM Staff Competence **(COMPTE)** **(2)** HRM Leadership **(LEADER)** **(3)** Labour Market Demand **(MKTDEM)**
(4) HRM Effectiveness **(HRM)** **(5)** Work Effort (**WEFFORT)** **(6)** Job Performance (**JOBPER)**
(7) Firm Performance **(FIRMPER)** **(8)** Technological Intensity **(TECH)** **(9)** Financial Intensity **(FINA)**
(10) Past Performance **(PASTP)** **(11)** Product Market Competitiveness **(COMPITI)**

References

Ahmad, S. & Schroeder, R.G. (2003). The impact of human resource management practices on operational performance: recognizing country and industry differences. *Journal of Operations Management*, 21(2) 19-43.

Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. (2000). *Manufacturing advantage: why high performance work systems pay off*. Ithaca, NY: Cornell University Press.

Ardenne, S. (2011). Is relocation an affair between leadership and HRM implementation?. *PhD Research thesis*, Business Administration, University of Twente.

Barney, J.B. (2001). Is the resource-based "view" a useful perspective for strategic management research? Yes. *Academy of Management Review*,26 (1) 41-56.

Becker, B.E. & Huselid, M.A. (2006). Strategic human resource management: where do we go from here?. *Journal of Management*, 32 (6), 898-925.

Brown, S.P. & Leigh, T.W. (1996). A new look at psychological climate and its relationship to job involvement, effort, and performance. *Journal of Applied Psychology*, 81 (4), 358–368.

Cesyniene, R., Diskiene, D. & Stankeviciene, A. (2013). Labour market trends and their impact on human resource management in Lithuanian companies. ISSN 1392 – 1258, 92 (3) 123–140.

Christen, M., Iyer, G., & Soberman, D. (2006). Job satisfaction, job performance, and effort: a reexamination using agency theory. *Journal of Marketing*, 70, 137–150.

Chung, H.S. & Kang, S.C. (2013). Sources of HR department power: scale development and validation. *Seoul Journal of Business*, 19 (2) 95–126.

Dauda, Y.A. & Akingbade, W.A. (2011). Technological change and employee performance in selected manufacturing industry in Lagos state of Nigeria. *Australian Journal of Business and Management Research*, 8 (5), 32–43.

Eddy, S. & Sears, G.J. (2012). CEO leadership styles and the implementation of organizational diversity practices: moderating effects of social values and age. *Journal of Business Ethics*, 105 (2), 41–52.

Ferguson, K.L. & Reio, T.G. (2010). Human resource management systems and firm performance. *Journal of Management Development,* 29 (5), 471–494.

Fleetwood, S. & Hesketh, A. (2006). HRM-performance relationship: under theorized and lacking explanatory power. *International Journal of Human Resource Management*, 17 (12), 1977-1993.

Gavrea, C., Stegerean, R. & Llies, L. (2012). Linking environmental dimensions and business performance: a study on Romanian firms. *International Journal of Business Research,* 12 (3), 139–146.

Gomes, C.F., Yasin, M.M. & Lisboa, J.V. (2011). Performance measurement practices in manufacturing firms. *International Journal of Operations and Production Management,* 31 (1), 5–30.

Guest, D.E. (2011). Human resource management and performance: still searching for some answers. *Human Resource Management Journal,* 21 (1), 3–13.

Imran, M., Maqbool, N., & Shafique, H. (201). 'Impact of Technological advancement on employee performance in banking sector. *International Journal of Human Resource Studies,* 4 (1), 57–70.

Ingram, T.N., Lee, K.S., & Skinner, S.J. (1989). An empirical assessment of salesperson motivation, commitment, and job outcomes. *Journal of Personal Selling and Sales Management*, 9(2), 25–33.

Katou, A.A., & Budhwar, P.S. (2007). The effect of human resource management policies on organizational performance in Greek manufacturing firms. *Thunderbird International Business Review,* 49 (1), 1–35.

Ketkar, S., & Sett, P.K. (2010). Environmental dynamism, human resource flexibility, and firm performance: analysis of a multi – level causal model. *The International Journal of Human Resource Management*, 21 (8), 1173–1206.

Malik, N. & Aminu, M. (2011). The role of human resource in new globalized world. *Interdisciplinary Journal of Contemporary Research in Business,* 2 (11), 318–330.

Martin-Alcazar, F., Romero-Fernandez, P.M., & Sanchez-Gardey, G. (2005). Strategic human resource management: integrating the universalistic, contingent, cofigurational and

contextual perspectives. *International Journal of Human Resource Management,* 16 (5), 633-659.

McClean, E., & Collins, C.J. (2011). High commitment HR practices, employee effort, and firm performance: investigating the efforts of HR practices across employee groups within professional services firms. *Human Resource Management,* 50 (3), 341–363.

Menguc, B. (1996). Evidence for Turkish industrial salespeople, testing the applicability of a conceptual model for the effect of effort on sales performance and job satisfaction. *European Journal of Marketing,* 30 (1), 33–51.

Oladipo, J.A. & Abdulkadir, D.S. (2011). Strategic human resource management and organizational performance in the Nigerian manufacturing sector: an empirical investigation. *International Journal of Business and Management,* 6 (9), 46–56.

Opatha, H.H.D.N.P. (2012). *Human resource management*, ISBN 978 – 955 – 95885 – 9 – 7, Sri Lanka.

Piccolo, R.F., Greenbaum, R., Hartog, D.N.D., & Folger, R. (2010). The relationship between ethical leadership and core job characteristics. *Journal of Organizational Behaviour,* 31(3), 259–278.

Purcell, J., & Hutchinson, S. (2007). Front – line managers as agents in the HRM – performance causal chain: theory, analysis, and evidence. *Human Resource Management Journal,* 17 (1), 3–20.

Serasinghe, D.K.S., & Opatha, H.H.D.N.P. (2007). Human resource management practices in listed firms in Sri Lanka. *Sri Lankan Journal of Human Resource Management,* 1 (1), 36–52.

Warner, M. (2001). Globalization, Labour – markets, and human resources in Asia Pacific economies: an overview. *Research Papers in Management Studies,* Work paper 12, The Judge Institute of Management Studies, University of Cambridge.

Whitener, E.M. (2001). Do "High Commitment" human resource practices affect employee commitment? - a cross – level analysis using hierarchical linear modelling. *Journal of Management,* 27, 515–535.

Wright, P.M., & McMahan, G.C. (1992). Theoretical perspectives for strategic human resource management. *Journal of Management*, 18 (2), 295–320.

Zhu, W., Chew, I.K.H., & Spangler, W.D. (2006). Corrigendum to "CEO transformational leadership and organizational outcomes: the mediating role of human – capital – enhancing human resource management. *The Leadership Quarterly*, 16, 39–52.

Acknowdgement

The authors wish to thank anonymous reviewers for their valuable comments. The analyses and opinions in this paper are those of the authors and do not necessarily reflect the views of the Faculty of Graduate Studies, University of Colombo. The authors are alone responsible for any errors in this paper.

Operational Performance Measures for Lean Manufacturing in the Sri Lankan Apparel Industry

M.G.S. Dilanthi[1] and R.A.R. Prabodanie[2]

Abstract

Lean manufacturing is a performance improvement strategy that is greatly adopted by the Sri Lankan apparel industry. Therefore, carefully evaluating its performance is very important, currently, several performance measurement systems are available in the industry. But they alone cannot be used to measure the operational performance of lean manufacturing because those measures do not explain the objectives of the concept. Since this concept is widely implemented at the operational level, performance should be measured in non-financial terms. Many authors have suggested performance measures for the whole manufacturing sector but they have not considered only the apparel industry. Also some studies have used different measures which are not very specific and measurable. These are some issues found in the literature review. Therefore, based on the substantive literature review, this paper suggests six efficiencies that are specific, measurable and aligned with the objectives of lean manufacturing to measure the operational performance.

Keywords: *Sri Lankan Apparel Industry, Lean Manufacturing, Operational Performance, Performance Measures, Key Performance Indicators*.

Introduction

The Sri Lankan apparel industry is a key player in the economy of the country. It contributes 10% to the Gross Domestic Product (GDP) (Mirchandani 2009, Omar 2008 as cited by Lanarolle et al. 2014). The Board of Investment (2012) has stated that the industry accounts for 60% of the total industrial exports and employs about 15% of the total eligible workforce in the country.

---

[1]Department of Industrial Management,Wayamba University of Sri Lanka, shanikadilanthi@gmail.com

[2]Department of Industrial Management, Wayamba University of Sri Lanka, ranga.prabodanie@yahoo.com

Moreover, Sri Lanka is among the top apparel manufacturing countries in the world relative to its population (U.S. Imports of Textiles and Apparel). These factors emphasize the importance of the Sri Lankan apparel industry.

Being in international business, the Sri Lankan apparel industry has to face many challenges due to the competition among the Asian countries such as India, Pakistan, China, Bangladesh, Vietnam and Cambodia (Kelegama 2009). Delivering high quality products at a low cost was one major challenge created by removing Multi Fiber Agreement in 2005 and the global recession in 2008 that badly affected the industry. Sri Lanka recently lost Generalized System of Preferences Plus (GSP+) concession, hence the apparel manufacturers tried to minimize their costs. These encouraged them to become more attentive than earlier on finding where the wastes are created incurring unnecessary costs.

Kelegama (2005), Omar and Cooray (2005) and Palansooriya (2009) as cited by Lanarolle et al. (2014) have identified that poor labour productivity and high lead time are among the barriers for industrial performance. They create waste and incorporate non value added activities. Since the manufacturing process of the apparel products is highly labour intensive and depends on the human skills, following certain standards can save money. Also the Industry Capability Report of Sri Lanka (2012) has mentioned that the industry should focus and improve manpower development, productivity and price competitiveness. Therefore, identifying suitable measures is very important to improve the operational performance of the Sri Lankan apparel industry.

Literture Review

Performance Management Environment in the Apparel Industry

In general, the term “performance” describes the targets achievement as planned in the apparel industry. This process can be assessed mainly in three aspects of financial, operational and human resources. Ratnayake et al. (2013) have described the generic model of Hurreeram (2007) that explained three major functional areas in an apparel industry as; operations, planning and policy and merchandizing/ marketing. Therefore, the operational performance is very important to be assessed in the industry.

The following Figure 1 explains the product process matrix defining any manufacturing process under four categories: jumbled flow, disconnected line flow, connected line flow and continuous flow.

Figure 1: Product Process Matrix of Hayes and Wheelwright (1979)

PROCESS STRUCTURE	PRODUCT STRUCTURE			
	Very low volumes Low standardization One-of-a-kind product	Low volumes Multiple products	High volumes Few major products	Very high volumes High standardization Commodity products
Jumbled flow	Job Shop			
Disconnected line flow		Batch		
Connected line flow			Assembly Line	
Continuous flow				Continuous

Since in many cases, the manufacturing process of the Sri Lankan apparel industry is repetitive at its operational level, this industry can be placed in the disconnected line flow in the process structure. Also the concept of lean manufacturing is mostly suitable for repetitive manufacturing environment where the lean tools are easy to be defined and implemented. Even though many performance improvement philosophies are available in the industry, many researchers have identified that lean manufacturing is a paradigm for operational excellence (Bhasin and Burcher 2006). Further, those performance management systems are not enough to describe the complexity and the diversification of the Sri Lankan apparel industry. These reasons have motivated researchers to study in the area of lean manufacturing and its operational performance in this industry.

Evolution of Lean Manufacturing

The concept of lean manufacturing evolved over time. Thinking of waste reduction was developed in 1758 based on work ethics and frugality explained by Benjamin Franklin. By the twentieth century, scientific management was introduced. Frederick W. Taylor (1856- 1915) explained Work standardization and the best practices deployment to identify the non-value

added activities performed by the workers. Further he suggested to replace such activities with improved methods.

Frank Gilbreth (1868- 1924) and Lilian Gilbreth (1878- 1972) studied time and motions performed by the workers for different work. They improved such procedures through efficiency calculations. Then they could identify the unnecessary motions done by the workers. These were included in the scientific management.

Thereafter, Ford used scientific management to improve the performance of his motor company. He introduced the Ford's production philosophy. His philosophical fundamentals were further improved, and Ohno (1988) presented the Toyota Production System (Shah and Ward 2007) where the Japanese managers used this philosophy to rebuild their collapsed economy after the Second World War.

Based on these two philosophies of the Ford's production system and the Toyota Production System, lean manufacturing evolved as an improved production philosophy.

Progression in Academic Work Related to Lean Manufacturing

This new philosophy encouraged early researchers to do further studies in this area. Womack and Jones published a book called "The machine that changed the world" in 1990 and "Lean Thinking" in 1994 as a result of this encouragement.

Starting with these resources, many academics and practitioners in the field carried out innovative and interesting work related to lean manufacturing. The authors (Bhasin and Burcher 2006, Hopp and Spearman 2004, Shah and Ward 2007, Sugimori et al. 1977) defined lean manufacturing with different words relating to the different case studies. Literature does not possess a common definition for the concept but the idea was to eliminate waste and non-value added activities.

Many authors have studied lean practices based on different business strategies (Hopp and Spearman 2008, Rahman et al. 2010, Shah and Ward 2003). They have not found any common set of lean practices for lean manufacturing because its implementation depends on the nature of the business environment and the objectives of the practices that they are adopting.

Since lean manufacturing is a new concept to Sri Lanka, currently many academics and the practitioners are studying in this area (Perera and Perera 2012, Wickramasinghe and Wickramasinghe 2010, Wickramasinghe and Wijebahu 2013). Many of them are in the apparel

industry because in Sri Lanka, lean manufacturing is mostly practiced by this industry (Perera and Perera 2012). The necessity of improving customer demands and the quality of the products has encouraged this industry to adopt this new production philosophy. Therefore, the industry can successfully meet the existing competition in the market.

The Sri Lankan apparel industry currently adopts lean manufacturing to improve its performance. Some of these organizations have already implemented this concept and perceived its benefits. Some other organizations are still implementing the concept. The literature found few studies investigating performance measurement systems of lean manufacturing. They have provided evidence showing that the performance of the manufacturing organizations can be improved by lean manufacturing. But these studies did not focus only on the operational level and were not specific to the apparel industry. These findings do not clearly explain the impact of lean manufacturing on the operational performance of the Sri Lankan apparel industry.

Therefore, this study supports to fill the empirical and knowledge gap between the lean concept and its operational performance in the Sri Lankan apparel industry.

Performance Measurement in the Lean Adopted Organizations

Related literature states that during the past decades, various management practices were implemented in the manufacturing sector but they were not yet successful in the Sri Lankan apparel industry. Therefore, researchers and practitioners are still discussing about performance measurement.

Performance is multidimensional. Mainly they are two categories; financial and non-financial terms (Perera and Perera 2012). Many performance measurement systems are based on the financial terms that are traditional. But lean manufacturing is mostly practiced at the operational level. Therefore, measuring operational performance should explain the scope and applicability of the lean tools such as Just In Time (JIT), Total Quality Management (TQM), Total Preventive Maintenance (TPM), Kanban and Cellular Manufacturing etc. These tools are more relevant to non-financial measures than to financial measures. Therefore, using non-financial concepts is well suited for measuring the operational performance (Neely et al. 2005).

Types of Performance Measurement Systems

The manufacturing sector now follows new and advanced approaches to measure the performance of organizations. Activity Based Costing (ABC), Theory of Constraints (TOC), Performance Pyramid, Balance Scorecard and Performance Prism are some of those performance measurement systems. Though these performance measurement systems are introduced to overcome drawbacks of the traditional performance measurement systems, they do not perfectly fit the changes in organizational requirements in terms of the operational performance (Perera and Perera 2012). This is also true for management practices that have different perspectives with regard to minimizing waste. These performance measurement systems do not provide adequate attention to the objectives of lean practices followed by organizations.

The success of any performance measurement system in the lean implemented organizations depends on the selected key performance indicators (KPI). They should be selected to fit the shop floor of the organization and the objectives of lean manufacturing. Therefore, identifying effective key performance indicators of lean manufacturing assures the success and longer existence of the concept.

Selecting Key Performance Indicators for Lean Manufacturing

Authors have mentioned different sets of measures for operational performance (Abdallah and Matsui 2007, Fullerton and Wempe 2009, Ghosh 2013, Rahman et al. 2010, Shah and Ward 2007). Since these authors have considered the whole manufacturing sector, they could not find any common set of performance measures. The common measures identified among them are first pass quality yield, inventory reduction, cycle time, lead time, unit cost reduction, scrap and overall productivity. These terms include both financial and non-financial measures encompassing a wide scope of lean implementation.

Operational performance depends on the business strategy that is aligned with the type of industry. Therefore, those common measures cannot be directly applied to the Sri Lankan apparel industry. In the local context, little or no literature describes measuring the operational performance of the apparel industry (Perera and Perera 2012). But Bond (1999) has identified quality, delivery reliability, customer satisfaction, cost, safety and morale as the key performance indicators for the apparel industry. Since these measures are quantitative and qualitative, they do not possess a specific measurement. Therefore, the operational performance cannot be accurately measured with these measures.

Goldratt (1990) has defined performance measure as a metric used to quantify the efficiency and/ or effectiveness of an action. Therefore, the key performance indicators should be specific and measurable. Carefully selecting measures can optimize the resource utilization by enhancing the operational performance.

Hopp and Spearman (2008) have clearly defined seven specific terms to measure the operational performance. They are throughput efficiency, utilization efficiency, inventory efficiency, cycle time efficiency, lead time efficiency, service efficiency and quality efficiency. These measures are applicable to a single-product line in a disconnected work flow situations that are very common in the Sri Lankan apparel industry. Moreover, some of these measures are evident in the related empirical literature. Therefore, based on these arguments, this study suggests six efficiencies except service efficiency which is less evident in the accessible literature, to measure the operational performance of lean manufacturing in the Sri Lankan apparel industry.

These efficiencies vary from zero to 1. For a perfect product line, it should be 1. But in real production systems, all efficiency values are less than 1 and the performance of respective product lines can be explained as a composite of these seven efficiencies by assigning suitable weightages for them. This assignment depends on the nature and the business strategy. Since this study considers only the Sri Lankan apparel industry, both of these factors can be treated to be very similar among the units of analysis.

Further, minimizing every possible variation in a manufacturing process is central to the lean concept. Therefore, whichever the efficiency measure was used, reducing the variability should be required based on the law of variability. That caused this study to assume that all these selected measures have equally contributed to the operational performance with a minimum variability.

Conclusions

The Sri Lankan apparel industry contributes considerably to the economy of the country. The empirical studies have shown that lean manufacturing is mostly practiced by this industry. Therefore investigating the operational performance of lean manufacturing is very important.

Since lean manufacturing is mostly practiced at operational level, its performance should be measured in non-financial measures. Also the literature has identified the operational performance to be multi-dimensional. Selecting a set of performance measures depends on the objectives of lean manufacturing. Therefore, this paper discusses the available performance measurement systems and the performance measures identified by different authors.

Since the Sri Lankan apparel industry newly adapted to lean manufacturing, few studies have been done in this area. But considering the available literature and the fundamentals related to the natural behavior of manufacturing system, this paper suggests six efficiencies as the key performance indicators to measure operational performance of lean manufacturing in the Sri Lankan apparel industry.

References

Abdallah, A.B. & Matsui, Y. (2007). JIT and TPM: their relationship and impact in JIT and competitive performances. *Proceedings from the Conference of the International Decision Science Institute (DSI),* Bangkok, Thailand.

Bhasin, S. & Burcher, P. (2006). Lean Viewed as a Philosophy. *Journal of Manufacturing Technology Management*. 17(1), 56-72.

Board of Investments Sri Lanka. (2012). Sector Overview- Apparels. Board of Investments Sri Lanka. http://www.investsrilanka.com/key_sectors_for_investment/apparel_overview.html (Accessed at 02nd April 2012).

Bond, T. (1999). The role of performance measurement in continuous improvement. *International Journal Operations and Production Management*. 19(12), 1318- 1334.

Fullerton, R.R. & Wempe, W.F. (2009). Lean manufacturing, non-financial performance measures and financial performance. *International Journal of Operations and Production Management.* 29(3), 214- 240.

Ghosh, M. (2013). Lean Manufacturing Performance in Indian manufacturing plants. *Journal of Manufacturing Technology Management*. 24(1), 113- 122.

Goldratt, E. (1990). *Theory of Constraints*, Croton-on-Hudson, NY: North River Press.

Hayes, Robert H. & Wheelwright, Steven G. (1979). Link Manufacturing Process and Product Life Cycles. *Harvard Business Review.* January- February issue. 133- 140.

Hopp, W. & Spearman, M. (2008). *Factory Physics: Foundations of Manufacturing Management* (3rd ed.), New York, NY: Mc-Graw Hill.

Hopp, W.J. & Spearman, M.L. (2004). To Pull or Not to Pull: What is the question? *Manufacturing and Service Operations Management*. 6(2), 133- 148.

Hurreeram, D.K. (2007). Manufacturing Strategy Auditing for Garment Making Companies. Benchmarking: An International Journal. 14(3), 272 – 288.

Industry Capability Report- Sri Lankan Apparel Sector, (2012), Export Development Board, http://www.ips.lk/publications/ips_annual_reports/annual_report_2012_ips.pdf (Accessed at 10th April 2015).

Kelegama, S. (2005). Ready-made Garment Exports from Sri Lanka. *Journal of Contemporary Asia.* 39(4), 579- 596.

Lanarolle, W.D.G., Perera, T. & Yapa, T.S.D. (2014). Performance Improvement Best Practices Applicable to the Sri Lankan Apparel Industry. *Proceedings from the 3rd International Conference on Management and Economics.* Faculty of Management and Finance, University of Ruhuna, Sri Lanka.

Neely, A., Gregory, M. & Platts, K. (2005). Performance measurement system design, a literature review and research agenda. *International Journal of Operations and Production Management.* 25(12). 67-98

Ohno, T. (1988). *Toyota Production System*. Productivity Press, Cambridge, MA.

Perera, P.S.T. & Perera, H.S.C. (2012). Performance Measurement Systems of Lean Manufacturing Apparel Sector Organizations in Sri Lanka. *Research Journal of Social Science and Management.* 2(1), 31- 36.

Rahman, S., Laosirihingthong, T. & Sohal, A. S. (2010). Impact of lean strategy on operational performance: a study of Thai manufacturing companies. *Journal of Manufacturing Technology Management*. 21(7), 839- 852.

Ratnayake, R.M.V.S., Samarasekara, S.A.V.L. & Samarasinghe, S.A.D.G. (2013). Benchmarking the manufacturing process of Sri Lankan garment manufacturing companies. *International Journal of Engineering and Applied Sciences*. 4(5), 11- 21.

Shah, R. & Ward, P. (2007). Defining and Developing Measures of Lean Production. *Journal of Operations Management*. 25(4), 785- 805.

Shah, R. and Ward, P.T. (2003). Lean Manufacturing: context, practice bundles and performance. *Journal of Operations Management*. 25, 129- 149.

Sugimori, Y., Kusunoki, F., Cho, F., & Uchikawa, S. (1977). Toyota Production System and Kanban System: materialization of just-in-time and respect for human systems. *International Journal of Production Research.* 15(6), 535- 564.

Wickramasinghe, D. & Wickramasinghe, V. (2010). Differences in Organizational Factors by Lean Duration. *Operations Management Research*. 4 (3-4) 108-34.

Wickramasinghe, D. & Wijebahu, W. (2013). Lean Manufacturing as a strategic tool in improving quality performance of the apparel firms. *Proceedings from the International Conference on Business Management*.

Acknowledgements

I acknowledge the genuine comments and the guidance given by the reviewers and editors.

Direct User Prefere nces on Urban Coastal Ecosystem Services: A Case study of Adjacent Fishing Households of the Negombo Estuary, Sri Lanka

T.P.S.R. Guruge[1], U.K. Jayasinghe-Mudalige[2], M. Sumanadasa[3]

Abstract

Identification of the ways in which ecosystem services provide benefits to human populations and expression of such non-market benefits in monetary units are critical to ensure continuing returns into the future without diminishing its productivity. On this understanding, a multi-phased program of research focusing on ecosystem services associated with the Negombo estuary in Sri Lanka was carried out to rank and order the importance of such services to its direct users. A Choice Experiment was adopted that used the primary data gathered through a questionnaire based personal interviews with a sample of 225 households selected to represent 15 "Thotupola" areas adjacent to the Negombo estuary from January to March 2015. The results suggest that the highest MWTP was recorded for the 'Provisioning Services' provided by Negombo estuary followed by 'Supporting Services'. The lowest value was recorded for the 'Cultural Services'.

Key Words: *Choice experiment, Environmental valuation, Marginal willingness to pay, Negombo estuary, Urban ecosystems*

Introduction

Background

Biodiversity, as a concept, describes the diversity on earth in terms of genetic, species and ecosystem diversity. Biodiversity conservation and sustainable ecosystem management continues to be one of the crucial concerns in both social and policy discussions.

---

[1]Department of Agribusiness Management, Wayamba University of Sri Lanka, guruge84@yahoo.com

[2]Wayamba University of Sri Lanka, udith@hotmail.com

[3]Faculty of Graduate Studies, University of Colombo, ms1949@gmail.com

Ecosystem services are the conditions and processes through which 'natural ecosystems' and the species that make them up, sustain and fulfil human life (Walker *et al.*, 2004). The natural ecosystems are broadly classified into two main categories, namely: (1) Terrestrial, and (2) Aquatic ecosystems and the later can further be grouped into two classes as: (a) Fresh water, and (b) Marine ecosystems. The wetlands, including those in Sri Lanka, can very broadly be classified under three groups: (1) Offshore and marine systems; (2) Coastal systems, and (3) Inland systems. The offshore and marine systems include shallow sea bays and trait, tonal offshore islands and islets. Coastal systems include estuaries, brackish to saline lagoons and mangrove swamps, along with rocky seacoasts, sandy beaches, saltpans and aquaculture ponds.

The wetlands of Sri Lanka can be very broadly considered as three groups; offshore and marine systems, coastal systems and inland systems. Offshore and marine systems include shallow sea bays and trait, tonal offshore islands and islets. Coastal systems include estuaries, brackish to saline lagoons and mangrove swamps, along with rocky seacoasts, sandy beaches, saltpans and aquaculture ponds. Human population growth effects demand for urban space and housing properties. This has caused conversion of urban wetlands to urban use. Predominantly ecosystems located near to the densely populated urban areas (Bellanwilla-Attidiya Marshes, Muthurajawela Swamp, Negombo Lagoon, Batticaloa Lagoon) experience reclamation for housing developments (Kotagama et al., 2009).

Ecosystems are valued preliminarily for their goods and services, for example, fish, timber and other agricultural products etc., they deliver other important services too that are often perceived to be "free" and "limitless" (Groot *et al*., 2002). Most of these ecosystem services are, however, traditionally absent from society's balance sheet, and in consequently, their critical contributions are overlooked in public, corporate, and individual decision making. Ecosystem service valuation, in light of this, is being developed as a vehicle to integrate ecological understanding to redress the traditional neglect of ecosystem services in policy decisions (Walsh, 2007).

Research Problem

The importance of ecosystems to human society has many dimensions. But these ecosystems and their biodiversity are in degradation due to the absence of comprehensive valuations of ecosystem services in monetary units. It is a significant dilemma to identify the importance of an in-depth analysis on valuation with respect to the different stakeholders who interact with the essences of ecosystems in different scales to recognize the social benefits, social costs,

externalities and environmental instruments in implementing conservation policies. Understanding the degree and order of importance of ecosystem values for its users is critical for planning for optimum and sustainable management, as properly managed ecosystem can provide continued returns into the future without diminishing its productivity.

Human population growth affects natural resources, particularly for urban space and housing properties. This has caused conversion of urban wetlands to urban use (Barbier and Strand, 1998). Predominantly, the ecosystems adjacent to a densely populated urban area may experience reclamation for housing developments. For example, the ecosystems adjacent to highly populated urban areas in Sri Lanka such as Bellanwilla-Attidiya Marshes, Muthurajawela Swamp, Batticaloa and Negombo estuaries experience reclamation for housing developments (Kotagama *et al.*, 2009). Although the importance of ecosystems to human society has many dimensions such as ecological, socio-cultural, and financial, lack of valid and reliable information from a comprehensive valuation of ecosystem services in monetary units has created a gap to find favourable solutions to minimize ecosystem degradation.

Research Objectives

The general objective of this study was to rank and order the ecosystem services associated with urban coastal ecosystems, where the degree of preference of such services to its adjacent community was taken into account and the consumption of these ecosystem services were specified in monetary units ("*Purchasing Stated Preference*"). The specific objective of the study was, in turn, to derive a monetary value for the ecosystem services generated by Negombo estuary in Sri Lanka based on the stated preference given by the adjacent community to this urban coastal ecosystem.

Literature review

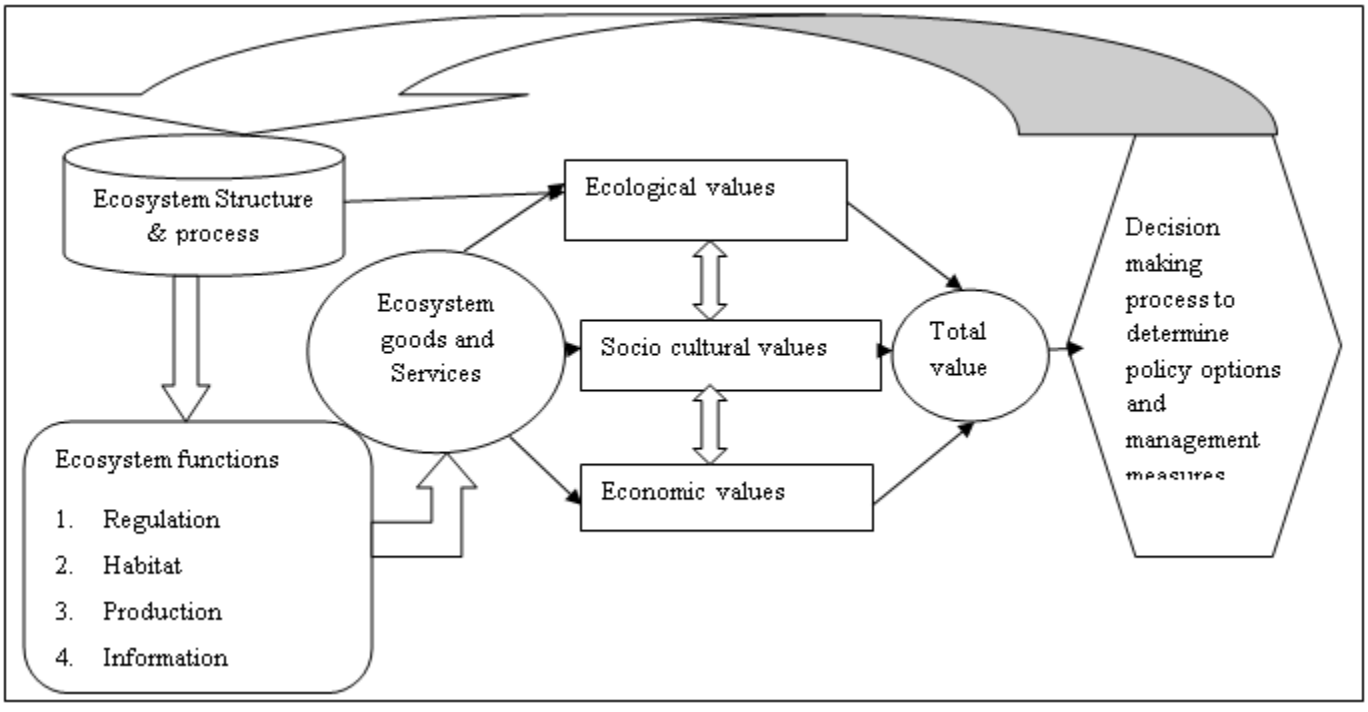
Biodiversity is a complicated concept which refers to total variety of life that exists on earth. Biodiversity is an attribute of an area and specifically refers to the variety within and among living organisms, assemblages of living organisms, biotic communities, and biotic processes, whether naturally occurring or modified by humans. Biodiversity can be measured in terms of

genetic, species and ecosystem diversity. These levels are all interrelated yet distinct enough that they can be studied as three separate components.

Ecosystem diversity is the number of habitats, biotic communities and ecological process in the biosphere, as well as the extent to which ecosystems vary. Ecosystem diversity can itself be thought of on different levels. Functional diversity is the abundance of functionally different organisms. Community diversity, or patchiness, is the number, size and spatial distribution of communities in an ecosystem. Ecosystems provide a range of services, many of which are of fundamental importance to human wellbeing, for health, livelihoods, and survival (Millennium Ecosystem Assessment, 2005).

Ecosystem functions amount to "the capacity of natural processes and components to provide goods and services that satisfy human needs, directly or indirectly" (Groot et al., 2002). According to the Groot et al., (2002) the ecosystem functions are elaborated as four main functions (figure 1). These include regulation functions (e.g. bio geochemical cycles), habitat functions (e.g. refuge and reproduction habitat), production functions (e.g. photosynthesis) and information functions (e.g. spiritual and recreational experiences).

Figure 1: Framework for integrated assessment and valuation of ecosystem functions, goods and services.



Source: Groot et al (2002)-(P-394)

Within the Total Economic Value (TEV) framework, values are derived, if available, from the information of individual behaviour provided by market transactions relating directly to the ecosystem service. In the absence of such information, price information must be derived from parallel market transactions that are associated indirectly with the good to be valued. If both direct and indirect price information on ecosystem services is absent, hypothetical markets may be created in order to elicit values. These situations correspond to a common categorization of the available techniques used to value ecosystem services: direct market valuation approaches, revealed preference approaches and stated preferences approaches (Wattage and Mardle, 2005).

Direct market valuation approaches are divided into three main approaches; market price based approaches, cost based approaches, and approaches based on production functions. The main advantage of using these approaches is that they use data from actual markets, and thus reflect actual preferences or costs to individuals. Moreover, such data i.e. prices, quantities and costs exist and thus are relatively easy to obtain.

Direct market valuation approaches rely primarily on production or cost data, which are generally easier to obtain than the kinds of data needed to establish demand for ecosystem services. However, when applied to ecosystem service valuation, these approaches have important limitations. These are mainly due to ecosystem services not having markets or markets being distorted. The direct problems that arise are twofold. If markets do not exist either for the ecosystem service itself or for goods and services that are indirectly related, then the data needed for these approaches are not available. In case where markets do exist but are distorted, for instance because of a subsidy scheme or because the market is not fully competitive, prices will not be a good reflection of preferences and marginal costs. Consequently, the estimated values of ecosystem services will be biased and will not provide reliable information to base policy decisions on (Wattage and Mardle, 2005).

According to the Wattage and Mardle (2008), revealed preference techniques are based on the observation of individual choices in existing markets that are related to the ecosystem service that is subject of valuation. In this case, it is said that economic agents “reveal” their preferences through their choices. The two main methods within this approach are; the travel cost method (TC) and the hedonic pricing (HP).

TC approach is mostly relevant for determining recreational values related to biodiversity and ecosystem services. It is based on the rationale that recreational experiences are associated with a cost (direct expenses and opportunity costs of time). The value of a change in the quality or quantity of a recreational site (resulting from changes in biodiversity) can be inferred from estimating the demand function for visiting the site that is being studied (Balmford et al., 2002). HP approach utilizes information about the implicit demand for an environmental attribute of marketed commodities. For instance, houses or property in general consist of several attributes, some of which are environmental in nature, such as the proximity of a house to a forest or whether it has a view on a nice landscape. Hence, the value of a change in biodiversity or ecosystem services will be reflected in the change in the value of property (either built up or land that is in natural state). By estimating a demand function for property, the analyst can infer the value of a change in the non marketed environmental benefits generated by the environmental good.

In revealed preferences methods, market imperfections and policy failures can distort the estimated monetary value of ecosystem services. Scientists need good quality data on each transaction, large data sets, and complex statistical analysis. As a result, revealed preference approaches are expensive and time consuming. Generally, these methods have the appeal of relying on actual/observed behaviour but their main drawbacks are the inability to estimate non use values and the dependence of the estimated values on the technical assumptions made on the relationship between the environmental good and the surrogate market good (Kontoleon et al., 2002).

Stated preference approaches simulate a market and demand for ecosystem services by means of surveys on hypothetical (policy induced) changes in the provision of ecosystem services. Stated preference methods can be used to estimate both use and non use values of ecosystems and/or when no surrogate market exists from which the value of ecosystems can be deduced. The main types of stated preference techniques are: Contingent valuation method (CV) and Choice modeling (CM).

CV approach uses questionnaires to ask people how much they would be willing to pay to increase or enhance the provision of an ecosystem service, or alternatively, how much they would be willing to accept for its loss or degradation. CM approach attempts to model the decision process of an individual in a given context. Individuals are faced with two or more

alternatives with shared attributes of the services to be valued, but with different levels of attribute (one of the attributes being the money people would have to pay for the service).

Theoretical Framework

The conceptual foundations of CE basically rely on two main theories, i.e. Lancaster's Theory of Value and Random Utility Theory (Lancaster, 1966; McFadden, 1974), which hypothesise that consumers derive utility from the "characteristics of goods" rather than "prices of goods", or in other words, individuals maximize utility by selecting the best among different alternative options those represent the hypothetical outcomes of a proposed program. Alternatives are, thus, made up of a set of "attributes", which are, in turn, be differentiated into various "levels". Choice is, therefore, a function of attributes presented in multiple choice sets.

In a CE, the utility derived by individual (*i*) from an alternative (*j*) is not limited to the attributes (*x*) given in the experiment. Several "unobservable" factors can influence utility, which are captured by a random part (ε). Consistent with the Random Utility Theory (Hensher *et al.*, 2005), the random and unobservable term is assumed to enter the utility function additively. Hence, the utility (U) of individual *i* from alternative *j* can be expressed as: $U_{ij} = x_{ij} + \varepsilon_{ij}$.

To ensure the internal consistency, a CE contains multiple choice sets. Each choice set includes the *status quo*, representing "no change" in the prevailing levels of different attributes (x), and two (or more) hypothetical alternatives; noting that each alternative identifies different levels of a number of attributes. Therefore, individual *i* selects alternative *j* over alternatives *j'* when expected utility (U) is greater than expected utility from all other options. The probability (Pr) that individual *i* will choose alternative *j* over other alternatives *j'* in a complete choice set R can, therefore, be expressed as: $Pr(j\backslash R) = Pr\{(Uij > Uij', \text{ s.t.} \forall j' \in R, \text{ and } j \neq j')\}$.

To identify the "most preferred" alternative, the expression above can be econometrically estimated based on responses to a household or individual survey. Assuming that the 'error term' is identically and independently distributed and the indirect utility (V) is 'linear' in attributes (*x*), this expression can be estimated with a Conditional Logit (CL) model (McFadden, 1974) expressed as: $V_{ij} = ASC + \beta_{ij}$, where, V refers to indirect utility obtained by the i^{th} individual for the j^{th} alternative and β is the coefficient of the attributes (*x*) included in the experiment. The Alternative Specific Constant (ASC) captures the effect of unobservable factors on the selection

of alternatives relative to the status quo. In this analysis, ASC is a dummy variable that is coded as "1" for two hypothetical alternatives in the choice set, and "0" for the status quo.

A Random Parameter Logit (RPL) model can also be estimated by relaxing some of the constraints associated with the assumption in the CL model. In the RPL model, the observed component (β_x) is decomposed into two parts, i.e. the sum of the population means (Υ) and individual deviation of the random parameter (η). In this model, socioeconomic variables (s) are introduced to detect sources of heterogeneity. Further, interaction terms in s identify the impacts of individual-specific characteristics on selected alternatives and the ASC. The RPL model can, therefore, be expressed as: $V_{ij} = ASC + \Upsilon x_{ij} + \eta x_i + \gamma s_i$.

Methodology

Negombo estuary was selected as the case for analysis given its importance to the economy and ecology, in term of income generation through employment and various activities supporting urban livelihood. It is geographically segregated into areas known as "*Thotupola*", i.e. the areas where the fishermen can easily launch their fishing boats into the estuary and each *Thotupola* has a unique name for the ease of recognition.

A multi-phased program of research was carried out to examine the research problem, which comprised of collection and analyse of data by means of a Choice Experiment (CE) to assess the consumption of ecosystem services by the target group (i.e. people adjacent to Negombo estuary in this case) based on the condition of '*Stated Preference*', i.e. these services are "priced" for the potential users (Hanley *et al.*, 2003; Carson *et al.*, 2001; Goffe 1995).

Data collection

Based on the geography of Negombo estuary, fifteen Thotupola areas were selected to collect data supporting Choice Experiment. Five focused group discussions were carried out in five Thotupola areas to identify the levels of ecosystem services that are crucial for the households adjacent to these areas. The ecosystem services and subservices identified were categorized into four major categories, in turn (Table 1).

Table 1 ecosystem services and subservices of Negombo estuary

Ecosystem Service	Sub-services
Provisioning services (PS)	Fish (PSF)
	Crabs (PSC)
	Prawns (PSP)
Cultural services (CS)	Conservation of traditional fishing practices (CSC)
	An ideal location to gain knowledge & to conduct research (CSA)
	Mangrove recreation (CSM)
Regulating services (RS)	Prevention of soil erosion by mangrove (RSP)
	Cleaning of polluted lagoon water by mangrove (RSC)
	Reduction of flood damage by mangrove (RSR)
Supporting services (SS)	Sediment stabilization by mangrove (SSS)
	Nutrient recycling by mangrove (SSN)
	Biodiversity around mangrove (SSB)

The 'payment vehicle' (i.e. mode of payment) was derived by taking into account of the willingness of adjacent community towards "participatory conservation programmes" through labour hours. The market rate of a labour hour was applied to derive the monetary payment to reflect their contribution in this respect, i.e. the minimum of Rs.162.50 and maximum of Rs. 325 per year.

As specified elsewhere, designing of a CE generally involves identification of 'choice sets' made up of optimal combinations of 'attributes' and their 'levels'. Since each of the 4 attributes identified for the purpose of this analysis had several levels, combining these into a limited number of choice sets or combinations of alternatives was complicated. The ecosystem services and their levels were, as a result, combined into a limited number of choice sets made up of

optimal combinations of attributes and their levels, where the 'Orthogonolization' procedure was adapted to recover only the main effects consisting of 27 profiles and these profiles were in turn randomly blocked to 9 different versions (Table 2).

Table 2: An example of a choice set

Ecosystem Service	**Choice A**	**Choice B**	**Choice C**
Provisioning services (PS)	Fish (PSF)	Crabs (PSC)	Prawns (PSP)
Cultural services (CS)	Conservation of traditional fishing practices (CSC)	An ideal location to gain knowledge & to conduct research (CSA)	Mangrove recreation (CSM)
Regulating services (RS)	Prevention of soil erosion by mangrove (RSP)	Cleaning of polluted lagoon water by mangrove (RSC)	Reduction of flood damage by mangrove (RSR)
Supporting services (SS)	Sediment stabilization by mangrove (SSS)	Nutrient recycling by mangrove (SSN)	Biodiversity around mangrove (SSB)
Annual payment (AP)	Rs. 243.75 per year	Rs. 325 per year	Rs. 162.50 per year

A structured questionnaire was designed to include the 27 choice sets identified and later divided into 9 versions. Three cards were designed to be used in the survey (these were indeed the visual depictions of choices that used pictures and bars etc.) with each respondent so that the respondent in concern was supposed to choose one option (either the status quo or one of the two alternatives) from each card. In this way, each respondent was supposed to make three choices. In addition to the differing choice scenarios, the respondents were provided with socio-economic and ecosystem and conservation information.

Once the scenarios for CE and the choice sets required for that were created, a face-to-face interview was carried out with households adjacent to the Negombo estuary and across the 15 Thotupola areas (n=225) during January to March 2015. The method used to select a respondent

to the sample follows a systematic procedure, including, first, selection of villages adjacent to the estuary and group which into different geographical regions based on the Thotupola attached to each. Next, a list of households belonging to each geographical region, which was obtained from the corresponding Fishing Committees, were used to select households from 15 Thotopula areas, where the household head of every 5th household, irrespective of whether male or female, in the given area was contacted to collect data.

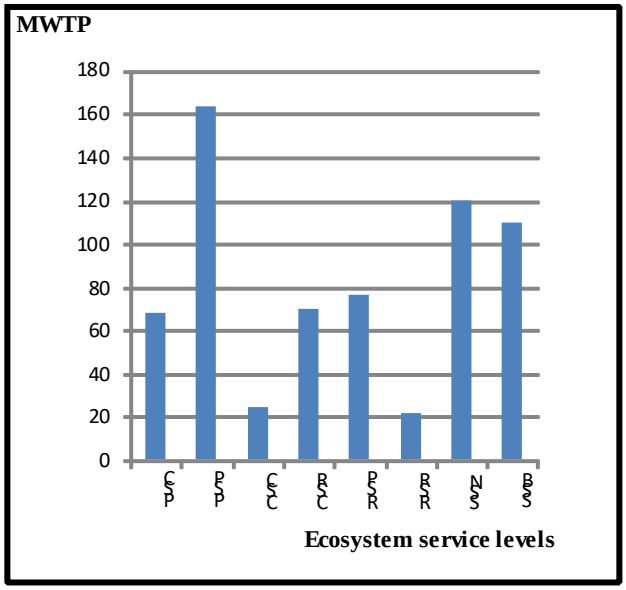
Results and Discussion

Table 3 presents the basic socio-economic information. Forty seven percent of the respondents were in the age category of 40 to 50 years and about 52 percent were educated above the 8th grade. It was estimated that their average monthly income was approximately Rs. 12,300.

Table 3. Descriptive statistics of sample levels

Parameter	Percentage
Age (yrs)	
<40	4
40-50	47
50-60	41
60<	8
Education (grade)	
<5	
5-8	8
8<	41
	52
Monthly wage (Rs.)	
<10,000	15
10,000-15,000	76
15,000<	9

Figure 2. MWTP values of ecosystem service



The Willingness to Pay (WTP) for the amenities was estimated in three stages. First, the marginal WTP or the implicit price for the specific service alternative was taken followed by the WTP for of individual attributes or services included in the choice task. Finally, the WTP for the bundle of services was derived as the social benefits.

The overall implicit price for the desired ecosystem services was estimated by taking the aggregate of all the levels. This is the amount of money that the fishermen are willing-to-pay for the conservation of that particular ecosystem service. The highest Marginal Willingness to Pay (MWTP) was recorded for the 'Provisioning services' provided by Negombo estuary and the lowest value was recorded for the 'Cultural services' provided by the estuary (See, Table 4). The second highest MWTP was recorded for the 'Supporting services' provide by it. It was found that 6 out of 8 levels of ecosystem services considered in the analysis were significant at 95% significant level (Table 4). The overall implicit price or the social benefits of the ecosystem services of Negombo estuary was derived as Rs, 608.60 per respondent. Figure 3 describes the MWTP for the each level of the service attribute. According to the context, "Conservation of traditional fishing practices" (CSC) and "Reduction of flood damage by mangrove" (RSR) were not significant in developing a pricing scheme for the conservation of estuary. The ASC is negative (i.e. -0.759) and significant. Positive coefficients for the attribute imply the respondent preferred those strategies and each and every level of ecosystem services have acquired positive coefficients.

Table 4: Outcome of Choice Experiment

Ecosystem Services		**MWTP**		
Provisioning Services	(PS)	231.72		
Cultural Services	(CS)	69.89		
Regulating Services	(RS)	76.88		
Supporting Services	(SS)	230.11		
Levels		**Coefficient**	**P-Val (SE)**	**MWTP**
Fish	-	-	-	-
Crabs	(PSC)	1.27	0.003* (0.42)	68.28
Prawns	(PSP)	3.04	0.000* (0.66)	163.44
Conservation	(CSC)	0.45	0.297 (0.43)	24.19
Gain knowledge	-	-	-	-
Recreation	(CSR)	1.29	0.020* (0.56)	69.89
Prevention erosion	(RSP)	1.42	0.045*(0.38)	76.88

Cleaning polluted water	(RSC)	-	-	-
Reduce flood damage	(RSR)	0.40	0.448 (0.54)	21.50
Sediment stabilisation	-	-	-	-
Nutrient recycling	(SSN)	2.23	0.000* (0.41)	120.43
Biodiversity	(SSB)	2.04	0.000* (0.41)	109.68

Note: W = Weight; RW = Relative Weight; GW = General Weight; MWTP in Rs. Per acre per year

Log likelihood -284.60. Pseudo R^2 0.3036, N. Observations 675

The results above suggest that the MWTP for the alterative service levels which may be important in implementing policies or conservation strategies. The adjacent community values the importance of provisioning services as well as the supporting services in preparing a payment scheme for conservation. However, it is recognised that the fishermen adjacent to Negombo estuary do not perceive that the conservation of traditional fishing practices and reduction of flood damage by mangrove are worth enough, compared to other options in concern, to contribute in an annual payment scheme for conservation program. The lower values expressed for the regulating and cultural services by the respondents suggest that although this can be considered as an activity of national interest, their contribution would be in the form of their 'service' to accomplish this task.

Conclusions

The key findings of the study highlight that an estuarine ecosystem provides a variety of ecological functions that directly or indirectly translate to economic services and values. The outcome of this analysis, overall, shows that the identification of the ways in which ecosystem services provide benefits to human populations and expression of such non-market benefits in monetary units provide valid science-based information which is of paramount importance for advance planning with respect to management of environment, in general, and marine ecosystems, in particular, in order to ensure continuing returns into the future without diminishing the productivity of such systems. Further, the estimates obtained can be used to compare with other sources of value existing to direct users. The overall implicit price value for

the ecosystem services of estuary can be extrapolated to the local, national and global scale by assuming an equal distribution of cost and benefit of the conservation of estuary to the community to which further investigation into this research problem is warranted.

References

Balmford, A. & Rodrigues, A.S.L (2008) The economics of biodiversity and ecosystems: scoping the science, European Commission, Cambridge UK. Retrieved from http://ec.europa.eu/environment/nature/biodiversity/economics/teeb_en.htm.

Barbier, E. B., & Strand, I. (1998) Valuing mangrove fishery linkages: a case study of Campeche, Mexico. *Journal of Environmental and Resource Economics*, 12 (2) 151–166.

Carson, R.T., Flores, N.E. and Meade, N.F. (2001) Contingent valuation: Controversies and evidence. *Journal of Environmental and Resource Economics* 19 (2) 173-210.

Goffe,L P. (1995) The Benefits of Improvements in Coastal Water Quality: A Contingent Approach. *Journal of Environmental Management* 45 (4) 305-317.

Groot, R.S., Wilson, M.A. & Boumans R.M.J. (2002) A typology for the classification, description and valuation of ecosystem functions, goods and services. *Journal of Ecological Economics* 41 (2) 393–408.

Hanley, N., Bell, D & Alvarez F. B. (2003) Valuing the benefits of coastal water quality improvements using contingent and real behaviour, *Journal of Environmental and resource Economics* 24 (2) 273-285.

Hensher, D., Rose, J., & Greene, W (2005) Applied choice analysis: a primer. Cambridge University Press, Cambridge

Kontoleon, A., Macrory, R. & Swanson, T. (2002) Individual Preference Based Values and Environmental Decision-making: Should Valuation have its Day in Court?. *Journal of Research in Law and Economics* 20 (4) 179–216.

Kotagama, S.W., Bellio, M.G., & Dayananda, K., 2006. Pioneering shorebird research in Sri Lanka: launch of the National Bird Ringing Programme. Wader Study Group Bulletin 109 (4) 106–110.

Lancaster, K. (1966) A new approach to consumer theory. *Journal of Political Economy*, 74 (2) 132-57.

McFadden, D. (1974). Conditional logit analysis of qualitative choice behavior. In: Zarembka. P. (ED). Frontiers in econometrics. Academic Press. New York.

Walker, B.H., Holling, C.S., Carpenter, S.R. & Kinzig, A.P. (2004) Resilience, adaptability and transformability in social ecological systems. *Journal of Ecology and Society* 9 (2) 2-5

Walsh, R.L., (2007) Endogenous open space amenities in a locational equilibrium. *Journal of Urban Economics* 61 (2) 319–344.

Wattage, P. & Mardle, S., (2005) Identifying stakeholder preferences towards conservation versus development for a wetland in Sri Lanka. *Journal of Environmental Management* 77 (2) 122-132.

Wattage, P. & Mardle, S., (2008) Total economic value of wetland conservation in Sri Lanka identifying use and non-use values. *Journal of Wetland Ecology and Management* 256 (8) 1517-1572.

Relationship between Stock Market Development and Economic Growth: War and Post-War Evidence from Sri Lanka

D.A.I. Dayaratne[1] and A.W.G.C.N Wijethunga[2]

Abstract

This paper aims to investigate the relationship between stock market development and economic growth in Sri Lanka for the period of 2004 to 2014, a phase which includes the extensive civil war and post-war period. For the purpose of measuring the stock market development four proxies applied in this paper namely; Market capitalization ratio, Change in number of listed companies, Total value traded ratio and Turnover ratio. The economic growth is measured by the change in Gross Domestic Production at constant price. The researchers use Johansen Cointegration test to explore long term relationship between stock market development and economic growth. By employing Granger Causality test, the researchers investigate the causal relationship between stock market development and economic growth. The results suggest long term equilibrium between stock market development and economic growth. The results further demonstrate unidirectional causality between stock market development and economic growth war and post-war period.

Key wards: *Stock Market Development, Economic Growth, Johansen Cointegration Test, Granger Causality Test.*

Introduction

Background

It is widely believed that the capital market is one of the key determinants of economic growth in more advanced as well as emerging economies. The fact is that the stock market promotes new investments in the public liability companies which subsequently lead to increase the total output of the economy in several ways. In the recent past there has been a significant development in the emerging stock markets in the world in terms of market capitalization, large investor base, expansion of Initial Public Offerings (IPOs) and use of automated trading systems etc.

[1]Department of Accountancy & Finance, Sabaragamuwa University of Sri Lanka, indunildaya@gmail.com

[2]Department of Accountancy & Finance, Sabaragamuwa University of Sri Lanka, wijethunga@gmail.com

However, some countries could not sustain the development in the stock markets due to several reasons such as civil wars, uprisings, political instability, economic bust etc. In case of Sri Lanka, the conflict environment which prevailed for 30 years in the country prevented the smooth operation of Colombo Stock Exchange (CSE) to a greater extent and led to lose confidence of the prospective investors both local and foreign. As a result, the market became largely shrinking during this period. Nowadays there has been a big improvement in the CSE due to the peace after ending the conflict. Currently, the market has regained the confidence of the investors and the business community and there seems to be big improvements in the stock market and economy in the recent past.

These developments claim the need of new research base information for the investors and other stakeholders largely. The existing body of literature in finance has paid attention on core areas of finance such as asset pricing, stock market volatility and stock market efficiency. However, the findings of previous research evidence on this field are vague and open to question. Also, some emerging determinants (such as number of listed companies, market size, and liquidity) of stock market development are not explored or limited in the emerging market literature. It suggests that objectively determined stock market development indicators which spur economic growth is dire in the excising body of knowledge to a greater extent particularly in emerging markets. To investigator's best knowledge in Sri Lankan context this is the first attempt which looks at the relationship between stock market development and economic growth in the post-war episode and this has not been the focus of previous evidences in the global literature which considers war and post-war situation.

The paper very specifically investigates the long run relationship between stock market developments under two economic scenarios such as war period, post-war period. Therefore, the finding of this paper will be useful for the policy makers of the other emerging countries largely.

The rest of this paper is organized as follows. The section 2 states the objectives of the study. The theoretical justification of the research is expanded in section 3. The literature review is presented under section 4. The description of the data and the sample period of the study are summarized in section 5. In section 6 statistical models and justification for the methodology is

perused. The results are presented and analyzed in section 7. Finally, the concluding remark is given in section 8.

Objectives of the study

This study attempts to investigate the following objectives;

a. To explore the long term relationship between stock market development and economic growth.

b. To investigate the causal relationship between stock market development indicators and Gross Domestic Production

c. To distinguish the war and post war modalities of stock market development and economic growth.

Importantly, this study also attempts to shed light on new thinking on how the capital markets and economic growth integrate war period and post war period. Previous research evidences suggest that early studies have neglected the capital market in their studies as a predominant determinant of economic growth.

Theoretical Background

It is essentially important to look at the theoretical expiations on this subject before reviewing the empirical literature. There are theoretically addressed voluminous arguments that the stock market matters for economic development. For example, Goldsmith (1969) establishes the important stylized fact that periods of above average rates of economic growth tend to be accompanied by faster financial development. Stock market development is one of the important indicators of the financial development in a country. Arguably, stock market facilitates the investment in corporate sector by bringing the excess funds to deficit funds. When a firm goes for an initial public offering (IPO), the general public and other institutions purchase shares with the excess funds they have after consumption. These individuals and institutions are known as the excess units of the economy. The firms seeking funds are known as deficit units. The firms invest the raised funds for various projects within the economy. These investments tremendously contribute for the output of the economy this result largely in the economic development. Hicks (1969) states that after 19^{th} century very large manufacturing firms emerged these ventures no longer could finance with individual financing or retained corporate profits. This induced the firms to go public to raised funds. Very important aspect of the capital market is that the

providing of liquidity to the existing shareholders. If there is no liquidity for investors they will discourage to invest in the stock market. Generally, the investors in the stock market are the risk takers. They invest in high risk situations. Therefore, the stock market promotes investment in high risky ventures which other private investors are not interested in. It promotes economic growth.

Furthermore, there are some theoretical arguments that the banking sector development spurs the economic development than the stock market development. For example, King and Levine (1993) examined the relationship between measures of banking sector development and economic growth and contended that banking sector can spur economic growth in the long run. On the other hand, Boyd and Prescott (1986) and Stiglitz (1985) argue that banking sector development can play an important role in promoting economic growth as the banks are better than stock markets in terms of resource allocation. However, with the globalization and the structural changes of the economies, the relationship between stock activities and economic growth has become the subject of interest among the academics and the practitioners. Thus, this paper attempts to validate the theoretical explanations on stock market developments and economic growth with real data from the emerging economy of Sri Lanka.

Literature Review

There are adequate previous studies on the relationship between stock market development and economic growth in developed countries and emerging countries. The first study on relationship between financial markets and real sector activity is conducted by Gurley & Shaw in 1955. The study implied that one of the differences between developed and developing countries is that the financial system is more developed in the former and financial markets contribute to economic development through enhancing physical capital accumulation. Subsequently, many scholars focused on stock market development and economic growth. For example, a positive correlation between growth and indicators of financial development was documented by Goldsmith (1969), McKinnon (1973) and Shaw (1973). On the other hand, Harris (1997) argued that there is no significant relationship between stock market and economic growth over the period from 1980 to1991 covering forty nine economies.

Moreover, Biswal & Kamaiah (2000) explored the empirical relationship between stock market development indicators and economic growth in Indian context. They confirmed the existence of positive relationship between stock market size and economic growth. They also reported that stock market liquidity has not significantly related with economic growth. Conversely Caporale, Howells and Soliman (2004) attempted to study the linkage between stock market development, financial development and economic growth. They provided supportive evidence of seven countries which have well established stock markets and contended that stock market development impact on economic growth in the long run. The markets covered in the study are Argentina, Chile, Greece, Korea, Malaysia, Philippine and Portugal. Further, Nieuwerburgh, Buelens and Cuyvers (2006) examined the relationship between financial market development and economic growth in Belgium and suggested that capital market development substantially affected the economic growth in Belgium.

Similarly, Shahbaz, Ahamed & Ali (2008) reported the existence of strong relationship between stock market development and economic growth which covered the period from 1971 to 2006 in Pakistan. Vazakidis and Adamopoulos (2009) explored the relationship between stock market development and economic growth in France for the period 1965-2007 and have documented that economic growth has a positive effect on the stock market development. Boubakari & Jin (2010) examined causality relationship between stock market and economic growth in five Euronext countries; Belgium, France, Portugal, Netherland and United Kingdom. It confirmed that the existence of long run relationship between stock market growth and economic growth. It revealed that positive relationship between the stock market development and economic growth for countries which have highly liquid and highly active stock markets. Furthermore, countries with small and less liquid stock markets demonstrated absence of causal relationship between stock market development and economic growth.

Moreover, the relationship between stock market development and economic growth in Mauritius during the period from 1989 to 2006 is investigated by Nowbutsing and Odit (2011). Their findings suggested that stock market development is an important aspect for economic growth in Mauritius in the short run and long run. Wang & Ajith (2013) found insignificant positive impact of stock market development on economic growth in China as a developing economy. They used total market capitalization as a proxy for stock market development. It has been remarked that stock market development does not play a key role of economic growth in developing economies. Bayar, Kaya and Yildirim (2014) reported evidence of unidirectional

causality and long run relationship among economic growth and stock market capitalization, total value of stocks traded and turnover ratio of stocks traded of Turkish economy. Recently, Srinivasan & Prakasam (2015) examined the direction of causality between stock market development and economic growth and they elaborated that the market capitalization and turn over positively drive on Indian economic growth.

However, there is limited evidence on the causal relationship between stock market development and economic growth in Sri Lanka. A unidirectional causal relationship between stock market development and economic growth is in Sri Lanka reported by Athapaththu & Jayasinghe (2012). Jahfer & Inoue (2014) explored the relationship between stock market development and economic growth in Sri Lanka covering the period from 1996 to 2011. Their findings concluded that stock market development does positively contribute to economic growth and stock market development is the key aspect of economic development in Sri Lanka. In summary, most of previous empirical studies have suggested a relationship between stock market development and economic growth although the relationship demonstrated is a causal one.

The literature review revealed that the investigation of stock market development and economic growth during the war period and post-war period is the vacuum in the previous literature. The findings of those are not conscious across counties and considerable number of research questions is yet to be addressed. In the emerging stock markets, though the previous evidences limited, now there is a growing interest among academics and practitioners in these areas. Thus, contribution of this paper is the focusing on the war and post-war period in estimating the model specifications.

Methodology

Data and sample Period

As previously mentioned this analysis uses stock market indicators and economic indicators on Sri Lankan economy from 2004 to 2014. This period assures the inclusion of both war and post-war effect in Sri Lankan market. In order to achieve war and post-war modalities of stock market development and economic growth, the original series are divided into two sub periods known as war period and post-war period. The war period comprises of 2004 1Q – 2009 2Q and post-war includes 2009 3Q – 2014 4Q. The other economic indicators and stock market indicators are

obtained from annual reports of Central Bank of Sri Lanka and CSE Data Library issued by the CSE. This study applied the quarterly data due to the fact that the Central Bank issues the GDP data on quarterly basis.

Description of Variables

Stock market development is measured by the stock market size and liquidity on Colombo Stock exchange. The proxies for stock market size are; (1) Market Capitalization Ratio (MCR) and (2) changes in the number of domestic listed shares (COM). Market Capitalization Ratio is derived by dividing the value of listed companies by GDP. (3) Total Value Traded Ratio (STR) and (4) Turnover Ratio (TR) were selected to represent stock market liquidity. Total Value Traded ratio (STR) calculated by dividing the total value traded from the GDP and Turnover Ratio (TR) obtained from Total value of shares traded during the period divided by the total market capitalization of the period. This study utilized changes in the GDP based on constant price as an indicator for the growth of Sri Lankan economy. For example, Caporale, Howells & Soliman (2004), Boubakari & Jin (2005) Nowbutsing & Odit (2009), Filer, Hanousek & Campos (1999) used Market capitalization ratio as a variable for representing stock market size and value traded ratio, turnover ratio as proxies for market liquidity. In 1999, Filer, Hanousek & Campos used changes in the number of domestic listed shares for indicate stock market size.

Model

As this study involves time series data for the investigation, it is necessary to look at whether the data series are stationary. This is a necessary condition for a linear regression model. For the purpose of testing the unit root behavior of the data series two different unit root tests are applied, namely; Augmented Dickey-Fuller (ADF) test and Phillips Perron (PP) test. The statistical properties of the two tests are stated in equations (1) and (2) respectively.

$$\Delta y_t = a_0 + a_1 y_{t-1} + \sum_{J=1}^{p} a_i \Delta y_{t-i} + \varepsilon_t \quad (1)$$

The Phillip Perron test involves fitting the following regression,

$$y_i = a + p y_{i-1} + \varepsilon_t \quad (2)$$

The null hypothesis of the test is that the data series are non- stationary

Two or more series are themselves non stationary, but a linear combination of those could be stationary, and then the series are said to be cointegrated (Engel & Granger (1987). In economics, cointegration test utilizes to explain long run linkage between two or more variables. Therefore, we used Johansen Cointegration test to explain whether there is long run equilibrium between stock market development and economic growth. The Trace test and Maximal Eigen value are the joint tests that infer the null hypothesis of no cointegration (H_0: r = 0) against the alternative hypothesis of cointegration (H_1: r ≤ 0). The test results, if provides evidence to reject H_0, it indicates the existence of long run equilibrium between stock market development and economic growth. Caporale (2004), Liu and Sinclair (2008), Buelens et al (2006), Bayar et al (2014), Iskenderogul et al (2011),Tang (2013), Osamwonyi & Kasimu (2013), Shahbaz (2008) also employed Johansen cointegration to investigate long term linkage between economic growth and stock market development.

To analyze causality between economic growth and stock market development, this study employed Granger causality test. Granger causality test was originally processed by Granger (1969), and then was developed by Hamilton (1994). Granger causality test investigates the direction of relationship between two variables. Granger-Causality means the lagged Y influences X significantly in equation (3) and the lagged X influences Y significantly in equation (4). The test involves estimating the following simple equations (3) (4),

$$X_t = \sum_{i=1}^{n} a_i y_{t-i} + \sum_{j=1}^{n} \beta_j X_{t-j} + \mu_{1t} \quad (3)$$

$$Y_t = \sum_{i=1}^{m} \lambda_i y_{t-i} + \sum_{j=1}^{m} \delta_j X_{t-j} + \mu_{2t} \quad (4)$$

Results

The statistical output of the tests is presented in Table 1. Importantly, both ADF and PP test results demonstrated that in level series of GDP is stationary at 1% significant level and TR is stationary at 5% significant level in full period, the war period. It is seen that the first difference series of GDP and TR are stationary in full period, war and post-war period. On the other hand, COM and STR are stationary at 1% significant level in war period under two techniques and

post-war series of MCR is stationary at 1% significant level shows that the stationary under ADF test. However, all non-stationary variables become stationary in first different series under both tests at 1% significant level.

Table 1: Test results of the unit root tests for the full sample periods and war period and the post-war period

Variable	Series	2005/2013		War Period		Post war	
		ADF	PP	ADF	PP	ADF	PP
		t stat	*t stat*	*t stat*	*t stat*	*t stat*	*t stat*
GDP	Level	-6.57*	-21.48*	-8.61*	-14.14*	-1.74	-10.69*
	1st	-6.21*	-52.28*	-11.95*	-41.77	-8.17*	-37.78*
MCR	Level	-1.09	-1.22	-2.35	-2.26	-4.17*	-2.36
	1st	-6.19*	-6.23*	6.14*	6.14*	-4.37*	3.24**
STR	Level	-2.61	-2.26	-3.89*	-3.88*	-2.48	1.82
	1st	-3.28**	-7.64*	-10.14*	-10.15	-3.75**	4.83*
TR	Level	-3.08*	-3.07*	-4.18*	-4.28*	-1.94	1.61
	1st	-10.0*	-10.0*	-6.83*	-8.82*	-4.54*	4.86*
COM	Level	-1.94	-2.32	-3.93*	-4.71*	-2.54	2.49
	1st	-9.20*	-9.17*	-7.29*	-7.59*	-6.12*	6.14*
		1% = - 3.60		1% = - 3.05		1% = -3.05	
		5% = -2.94		5% = -3.88		5% = 3.88	

Notes:* (**) significant at 1% (5%) significant level

The results of Johansen Cointegration test for full period, war period and post-war period are summarized in the Table 2. The test results demonstrated that the GDP was cointegrated with stock market proxies in full period as well as war period and post-war period under Trace statistic and Maximal Eigenvalue at both of zero and one vectors. The results of Johansen test suggest that the long run relationship between economic growth and stock market development over the period of 2004 to 2013 and same relationship exists in war and post-war period.

Table 2: Results of Johansen Cointegration test

2004 – 2014					
Variables	H_0	Trace Test		Maximal Eigenvalue	
		Test Stat	5% C. V.	Test Stat	5% C. V.
GDP & MCR	r = 0	45.44	15.49	34.93	14.26
	r ≤ 1	10.51	3.84	10.51	3.84
GDP & COM	r = 0	58.35	15.49	35.35	14.26
	r ≤ 1	23.00	3.84	23.00	3.84
GDP & STR	r = 0	47.43	15.49	37.27	14.26
	r ≤ 1	10.16	3.84	10.16	3.84
GDP & TR	r = 0	56.91	15.49	37.91	14.26
	r ≤ 1	18.99	3.84	18.99	3.84
War period					
GDP & MCR	r = 0	27.29	15.49	18.44	14.26
	r ≤ 1	8.84	3.84	8.84	3.84
GDP & COM	r = 0	29.98	15.49	17.78	14.26
	r ≤ 1	12.19	3.84	12.19	3.84
GDP & STR	r = 0	38.94	15.49	26.03	14.26
	r ≤ 1	12.91	3.84	12.91	3.84
GDP & TR	r = 0	32.20	15.49	20.05	14.26
	r ≤ 1	12.14	3.84	12.14	3.84
Post war period					
GDP & MCR	r = 0	17.96	15.49	14.56	14.26
	r ≤ 1	4.39	3.84	4.39	3.84
GDP & COM	r = 0	24.64	15.49	15.01	14.26
	r ≤ 1	9.64	3.84	9.64	3.84
GDP & STR	r = 0	19.28	15.49	16.37	14.26
	r ≤ 1	3.90	3.84	3.90	3.84
GDP & TR	r = 0	19.37	15.49	15.28	14.26
	r ≤ 1	4.04	3.84	4.04	3.84

Note: r indicates the number of cointegrating vectors

The empirical results of Granger causality test are shown in Table 3. In the period of 2004 to 2014, indicated that there is a unidirectional causality between economic growth and stock market development in Sri Lanka. MCR, STR and TR were caused to GDP. On the other hand, GDP appears to cause on COM. During the war period, MCR and TR have a cause link to GDP and GDP has a cause link to STR. The results indicate that GDP has causality on MCR, STR, and COM variables and TR has causality on GDP. The results of war and post-war also confirm the unidirectional causality between economic growth and stock market development in Sri Lanka. The variable TR has strong impact on economic growth during the three periods which considered in this study. Furthermore, GDP appears to cause on three stock market proxies after the war, namely; MCR, STR and COM but in war period stock market proxies were caused to economic growth.

Table 3: The results of Granger causality test

Direction	2004/2014	War Period	Post war Period
	P value	P value	P value
MCR ⟶ GDP	0.08221**	0.04645*	0.99098
GDP⟶MCR	0.20316	0.40673	0.09570**
STR ⟶GDP	0.08647**	0.26365	0.64824
GDP⟶ STR	0.81389	0.05447 **	0.08238**
TR ⟶ GDP	0.07543**	0.08274**	0.00668*
GDP⟶TR	0.34539	0.46843	0.79255
COM⟶GDP	0.91510	0.91617	0.93944
GDP ⟶ COM	0.07969**	0.74839	0.08569**

Notes:* (**) significant at 5% (10%) significant level

Conclusion

The main purpose of this paper is to examine the long run relationship between GDP and stock market performance. The findings revealed the existence of long run relationship between GDP and stock market performance during the full sample period as well as for the war and the post-war period. Interestingly, no differences in results can be observed during the war and post-war period. These findings imply that the stock market development is largely contributing to the economic development. Interestingly, the test confirmed the existence of long run equilibrium between GDP and market capitalization ratio, changes in the number of listed companies, total

value traded ratio and turnover ratio. The causality test revealed that there is a causal relationship between GDP and stock market development indicators. The finding is very much useful for the stock market analysts who conduct forecasting of stock market performance for investment decisions. The finding also suggests that one can use these forecasting results of stock market performance in forecasting future economic growth and prospects in the economy. More importantly, there is no significant difference in the findings during the war period and post-war period. Thus, it can be concluded war situation or post-war environment does not matter to the long run relationship between stock market development and economic growths. This finding can be generalized to the other countries that experienced civil war globally and findings of this paper provide scientific evidence in formulating economic policies for various stakeholders.

Reference

Athapathu, A. R., & Jayasinghe, P. (2012). Stock market performance and economic growth: the case of Sri Lanka Paper published at the erepository on University of Colombo, Sri Lanka.

Bayar, Y., Kaya, A., & Yildirim, M. (2014). Effects of stock market development on economic growth: Evidence from Turkey. *International Journal of Financial Research*, *5*(1), 93 -105.

Boubakari, A., & Jin, D. (2010). The role of stock market development in economic growth: evidence from some Euronext countries. *International Journal of Financial Research*, 1(1), 14-20.

Biswal, P. C. & Kamaiah, B., (2000), 'On Stock Market Development, Banks and Economic Growth in India', *Working Paper No.69*, Institute for Social and Economic Change, Bangalore

Buelens, F., Cuyvers, L., & Nieuwerburgh, S.V. (2006). Stock market development and economic growth in Belgium. *Explorations in Economic History*, 43, 13-38

Caporale, G. M., Howells, P. G., & Soliman, A. M., (2004). Stock Market Development and Economic Growth: The Causal Linkage. *Journal of Economic Development*, 29(1) 33-50.

Goldsmith, R.W., 1969, Financial structure and development (Yale University Press. New Haven, CT)

Gurley, J., & Shaw, E. (1955). Financial Aspects of Economic Development. *American Economic Review*, 45, 515-537.

Harris, R. (1997). 'Stock market and development: A re-assessment', *European Economic Review*, 41(1) 139-146.

Hicks, J.A., (1969). Theory of Economic History. Clarendon Press.

Jahfer, A., & Inoue, T. (2014). Stock market development and economic growth in Sri Lanka. *International Journal of Business and Emerging Markets*, 6(3), 271-282.

Levine, R., & S.J. Zervos (1993). "What We have Learned about Policy and Growth from Cross-country Regressions?" *American Economic Review*, Vol. 83, 426-430.

Liu, X., & Sinclair, P. (2008). Does the linkage between stock market performance and economic growth vary across Greater China? *Applied Economic Letters*,15, 505–508.

McKinnon, R. I. (1973). *Money and capital in economic development*. Brookings Institution Press.

Nieuwerburgh, S.V., Buelens, F., & Cuyvers, L. (2006). Stock Market Development and Economic Growth in Belgium. *Explorations in Economic History*, 43(1). 13-38.

Nowbutsing, B. M., & Odit, M. P. (2011). Stock market development and economic growth: the case of Mauritius. *International Business & Economics Research Journal* (IBER), 8(2) 68-100.

Osamwonyi, I.O., & Kasimu, A. (2013). Stock market and economic growth in Ghana, Kenya and Nigeria. *International Journal of Financial Research*, 4(2), 83-98.

Shahbaz, M., Ahmed, N., & Ali, L. (2008). Stock market development and economic growth: ARDL causality in Pakistan. *International Research Journal of Finance and Economics*, 14(1), 182-195.

Shaw, E. S. (1973). Financial deepening in economic growth.

Srinivasan, P., & Prakasam, K. (2015). Stock Market Development and Economic Growth in India: An Empirical Analysis. *International Journal of Finance & Banking Studies*, 5(3), 361-375.

Stiglitz, J.E., and A. Weiss, (1981), "Credit Rationing in Markets With Imperfect Information," *American Economic Review*, 71 (3), 393-410.

Tang, C.F. (2013). The linkage between stock price and economic growth in Australia: A chicken-and-egg paradox? *Economic Research*, 26(2), 99-116.

Vazakidis, A., & Adamopoulos, A. (2009). Stock Market Development and Economic Growth. *American Journal of Applied Sciences*, 6(11) 76-87

Wang, B., & Ajit, D. (2013). Stock Market and Economic Growth in China. *Economics Bulletin, 33*(1), 95-103.

Aknowdlgement

The authors would like to thank the anonymous two referees for their helpful comments to improve the paper. The authors also appreciate the valuable comments given by the participants of the 4th Annual International Research Conference 2015 organized by the Faculty of Management and Commerce South Eastern University of Sri Lanka.

Learning Organizations and the Business Performance: Evidence from the Manufacturing Industries in Sri Lanka

Doluweera.L.K[1]

Abstract

The concept of Learning Organization (LO) has the capacity to become the idea of tomorrow for many organizations since it is an answer to the global world that faces rapid and violent change. Learning can be described as Meta Noia – fundamental shift of the mind or in Greek- the fundamental shift or change, or more literally transcendence ("meta"—above or beyond, as in "metaphysics") of mind ("noia," from the root "nous," of mind). A few researches clarify the relationship between Learning Organizations and Business Performance (BF) globally. This research surveyed into the degree of embracing LO concept in Sri Lankan manufacturing industries and whether LO has improved Business Performance. Manufacturing Industries in Sri Lanka are in its infancy in embracing LO and those which capture and share learning through Embedded Systems have reached BF excellence contrary to the previous research findings that emphasize the most prominent factor as Strategic Leadership.

Key words: L*earning organization, Business performance, Manufacturing industry, Strategic leadership, Embedded systems*

Introduction

Song et al (2009) states that in the current era of fierce economic struggle the human capital has become a dominant competitive weapon of organizations. The extent of workforce knowledge will be a priority over resources formally relied on such as cash, capital, or even technology. Growing awareness of the importance of individual knowledge created in organizations that play a key role in many functions such as developing and introducing new products, services, and technologies, shortening manufacturing cycle times, overcoming barriers in entering new markets etc. In the presence of such economic volatility, organizations have focused on continuous performance improvements as a competitive advantage, and more attention has been given to the learning organism in which collaborative learning could occur continuously both culturally and systematically

[1]PhD candidate, Faculty of Graduate Studies, University of Colombo & Lecturer - American College of Higher Education, Sri Lanka- doluweera.lalkumarasiri@gmail.com

Moreover, the world's business environment is constantly reshaped by the exploration in information technology and emergence of the knowledge based economy. Hence the Global organizations that will truly excel in the future will be those can tap people's commitment and capacity to learn continuously at all levels in the organization. Success and survival require organizations to create systems and structures that lead to the continual acquisition of and effective application of new knowledge being learning organizations at its best that emerges the competitive advantage. As stated in Davis and Daley (2008)

However Davis and Daley (2008) states that there are few empirical studies that have examined the relationship between the learning organizations concept and the firm's financial performance. Furthermore Ellinger et al. (2002) noted that the evidence is even harder to come by organizations linking ROI –Return On Investment and to kind of results to convince hard headed business people to risk their money on a learning oriented journey (Smith and Tosey (1999)).

Research Problem

The impact of Learning Organizations on Business Performance has rarely been investigated by researchers worldwide. Such investigations have even more in the Sri Lankan context.Furthermore empirical researches are rare that investigate whether Sri Lankan manufacturers have realized that Learning Organization is an approach to help organizations build their learning capacity at all levels of the organization and such learning can continuously and proactively be integrated with its work with the emphasis on employee involvement in the process of collaboratively conducted, collectively accountable change directed towards a shared values and principles that leads to Business performance improvements.

Hence there is a widely felt empirical gap, since up to which degree manufacturing industries in Sri Lanka have embraced LO and whether such embracement has resulted in business performance improvements is opaque to Sri Lankan Manufactures and has rarely been investigated and should be further investigated.

Research Objectives

The objective of this research paper is to examine to which degree, the Manufacturing industries in Sri Lanka have embraced the concept of Learning Organizations, to examine whether such embracement has an impact on Business performance on such manufacturing industries in Sri Lanka and to find out the most prominent dimensions of the Learning organizations which affect the business performance?

Theoretical background

Learning Organizations

Davis and Daley (2008) define Learning Organization **as** an approach to help organizations build their learning capacity at all levels of the organization. Watkin and Marsick (1999) have defined a learning organization as one that learns continuously and proactively uses learning integrated with (Weldy (2009)) its work with the emphasis on employee involvement in the process of collaboratively conducted, collectively accountable change directed towards a shared values principles. Marquardt (1996) theorized a learning organization as an organization that learns collectively and continually transforming itself to better collect, manage, and use knowledge for corporate success as stated in Weldy (2009). Garvin (1993) defines LO as an organization that acquires knowledge and then modifies it behavior based on knowledge. All definitions encompasses three key dimensions- learning changing and improving as stated in Weldy (2009)

According to Davis and Daley et al (2008), the ability to create new superior knowledge, innovate new products and services, improve operating efficiencies continually, create more value to customers and the ability of the stake holders to learn continuously and update organizational knowledge are the key characteristics of agile and responsive organizations that yield strategic and systematic competitive differentiation (Demma et al. (2005)) there by leading to increased revenues profits and economic value (Slater and Narver (1995);Garvin (1993)) as stated in Davis and Daley (2008).The penetration of new markets and the achievements of sustained market leadership demand applied learning. Garcia-Morales et al. (2006) as stated in Davis and Daley (2008). Generally learning organizations are defined as being market oriented having an entrepreneurial culture as well as a flexible organic structure and having facilitative leadership as stated in Ellinger et al. (2002)

The greatest studies of Senge (1990) conceptualized Learning Organizations (LO) as organizations where people continually expand their capacity to create the results they truly

desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together by interpreting Learning as **Meta noia** – fundamental shift of the mind or in Greek it meant a fundamental shift or change, or more literally transcendence ("meta"—above or beyond, as in "metaphysics") of mind ("noia," from the root "nous," of mind).

There are 5 main pillars of a well-established Learning Organization. The spiritual foundation of the learning organization is the Personal mastery– an essential corner stone or the discipline of continually clarifying and deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively. Even greatest commitments of organization and the capacity for learning can be no greater than that of its lifelong learning of the members. Systems thinking -the fifth discipline -a conceptual framework, a body of knowledge and tools that have been developed over the past years, to make the full patterns clearer by concentrating on systems archetypes which enables efficient coping with dynamic complexities which help seeing how to face changes in Businesses and other human endeavors which are complex systems bound by invisible fabrics of interrelated actions and by planning fundamental solutions , rather than taking static snap shots engaging in linear cause and effect chains and dealing with 'symtomic" detailed complexities. Furthermore Systems thinking-the gimmicks of the entre LO discipline integrates all the disciplines, fusing them into a coherent body of theory and practice emphasizes the whole can exceed the sum of its parts. Mental Models are deeply ingrained assumptions, generalizations, or even pictures or images mostly opaque to us that influence how we understand the world and how we take action molding our behaviors. Challenging and refining such mental models is ever essential by the managers if ever to face the turbulent changes in the global business world. A shared vision which binds people together around a common identity and sense of destiny involves the skills of unearthing shared "pictures of the future" that foster genuine commitment and enrollment which is originated as a bottom up discipline that enables managers learn the counter productiveness of trying to dictate a vision and there by realizing and bridging the gap between the reality of the organization and the shared vision through bona fide creative tension of subordinates. Finally Senge (1990) emphasizes the criticality of Team Learning- starts with "dialogue,"- the capacity of members of a team to suspend assumptions and

enter into a genuine synergetic "thinking together." In **Greek "Dia-logos"** meant a free-flowing of meaning through a group, allowing the group to discover insights not attainable individually.

When ensemble, ground, and properly blend these pillars together end result would be the Learning Organizations where employees continually expand their capacity to create the results they truly desire and innovations and new creations are nurtured. Senge (1990).

Torlak (2004) has theorized that Single loop learning, double Loop Learning and the Triple loop learning to be an effective learning Organization Flood and Romm (1997) as stated in Torlak (2004). Organizations should learn to live with "Disorder, irregularity and Randomness. According to Chaos and complexity theory which says that "butterfly effect" flapping of single small butterfly's wings initially produces insignificant changes in the environment. He innovatively argues that organizations which embrace LO concept better adapt to challenges of the volatile business environments learn to live with disequilibrium and chaos and could be efficient in facing them as shadow systems rather than legitimate orderly systems as stated in. Torlak (2004)

Furthermore Ortenblad (2004) has theorized a comprehensive roadmap towards an integrated model of Learning organizations which consists of four equally important aspects that should be blended together, namely Learning at work, Organizational learning (single loop, double loop and deutero learning), Learning climate (which makes learning natural) and Creating a decentralized learning Structure which enables continuous learning and the empowerment of subordinates who take risk without fear of severe punishment for failures of bonafide efforts of developing innovations and making decisions by developing "Organizational* minds"

As Kim and Callahan (2012) has shown Organizational learning (OL) is a prerequisite for being Learning Organizations (LO).However many scholars interchangeably use the two concepts of organizational learning and learning organization. However, Organizational learning is a prerequisite to the learning organization. (Sun and Scott (2003)) which is a fighting process for organizations in the face of "swift" pace of change(Senge (1990)), to reach the goals (Torlak (2004)), that fosters the collective learning process into a learning organization (Marsick and Watkins (2003)).

The Dimensions of the Learning Organization Questionnaire (DLOQ)

Watkins and Marsick (1993) theatrically formulated the Dimensions of Learning Organization Questionnaire (DLOQ) after defining the distinctive measurable dimensions-Create continuous learning opportunities, Promote inquiry and dialogue by creating a culture, Encourage collaboration and team learning, Establish systems to capture and share learning integrated with work; Empower people toward a collective vision- Connect the organization to its environment, Leaders model that support learning- Performance indicators Knowledge performance - and the .Mission Performance as stated in Yang et al. (1998)

Hence the present paper utilized the Dimensions of the Learning Organization Questionnaire (DLOQ) which has been widely used to measure the dimensions of a LO developed by Watkins and Marsick (1993) to measure the concept of Learning organizations, since Ellinger et al (2002) states that its validity and the reliability and psychometric properties which have well been worldwide tested and verified and obtained acceptable estimates (Selden et al. (1998)).

Financial Performance

Davis and Daley (2008) states that regarding the financial performance various measures, Organizational performance can be measured on a variety of dimensions and no single measure completely describes all aspects of performance of an enterprise. (ROI) Return On Investment, ROE return on Equity, Earnings per Share (EPS), Average productivity for employee, Time to market a product, Response time for customer complaints, Market share, Coast per business transactions, Return On Assets, Tobins q. Market value added in addition to Davis and Daley (2008) in order to assess financial performance objectives or by using perceptual financial performance measures as stated by Ellinger et al. (2002).

When measuring the Business performance The Balanced Core Card (BSC) can be utilized since it supplements financial metrics with 3 other additional perspectives for measuring company success –customer perspective, internal process perspective and learning and growth perspective by giving a holistic strategic visionary view of the business performances by integrating non-financial intangible assets into the financial measures as stated in Kaplan and Norton (1996). Hence present researcher utilizes BSC for measuring the Business Performance.

Literature review

Ellinger et al (2002) states that some researchers argue that LO is another illusive management pad that needs sufficient scrutiny from both practical and theoretical perspective. Several researchers have criticized LO as an indistinct and abstract never ending journey Anders Ortenblad (2004). Moreover Davis & Daley(2008) states that no Adequate Studies have been done in order to examine the Relationship between LO and the Firms Financial Performance**.** Even though LO enhances individual, team, organizational learning, which in turn yield performance gains (Slatter and Narver (1995); Baker and Shankula (1999); Ellinger et al (2002)). Davis & Daley (2008) further states that research studies neither address the potential impact of these elements on firm's performance nor the overall assessment approaches.

However Ellinger et al. (2002) argues that Learning and implementing what is learnt are key prerequisites for most successful organizations and LO strategies promotes individual team and organizational learning that result in enhanced learning in turn yield performance gains.(Baker and Sinkula (1999), Slater and Narver (1995)) as stated in Ellinger et al (2002) . Tseng (2010) found that LO have a positive effect on both organizational commitment and effectiveness and in turn organizational commitment has a positive influence on organizational effectiveness. Weldy (2009) has shown that the learning organization and transfer of training can be considered as important competencies for organizations succeed in today's turbulent marketplace. The learning organization enables learning and knowledge management, which improve organizational performance and maintaining a competitive advantage. Davis and Daley (2008) has discovered a positive relationship between learning organization behaviors and business performance. Kim and Callahan (2012) emphasize that the learning organization and learning transfer should be considered as an important strategy for making improvements in organizational performance (Weldy (2009)) in order to perform and survive in today's turbulent market place and further states that leadership for learning, Empowerment, embedded systems as powerful predictors of Learning Organization dimensions that affect the financial performance. Weldy (2009) has shown that leadership for learning Dialog and inquiry, continuous learning as the factors affecting the financial performance. Kim and Callahan (2012) states that leadership for learning, systems connections, and empowerment as the factors affecting the financial performance of a business and Yang et al. (2004) has found leadership for learning as a powerful predictor of the financial performance. Kim and Callahan (2012) further states that Embedded systems, inquiry and dialog , team learning, empowerment, leadership and are the powerful predictors of LO that

affect positively to the financial performance. However the most prominent dimensions of learning organizations (LO) concept that affect the financial performance of Sri Lankan Manufacturing Industries have rarely been investigated. Finally in Sri Lanka there is hardly ever done research in order to find out the relationship between LO and the Business performance.

Hence, it is clear that there are fewer researches that examine whether LO concept lead to improved business performance and even fewer researches have been done in Sri Lanka. Hence the present researcher has had a great inspiration to bridge the gap by investigate whether LO has a positive impact on business performance in manufacturing industries in Sri Lanka?

Therefore the hypothesis is developed that Adoption of Learning Organizations concept by the manufacturing industries in Sri Lanka has a positive correlation with Business performance.

Methodology

A sample of 40 Manufacturing companies registered in the National Chamber of Commerce were investigated by carrying out a survey consisted of a structured questionnaire and followed by in-depth interviews with CEOs, managers and marketing executives and triangulated with the results. Before the hypothesis was tested Measurement properties were validated by carrying out reliability test and the construct validity tests.

Table 1: Convergent Validity and the Reliability

Dimensions	No of Items	KMO Vaue	BTS Chi square significance	CR	AVE	Cronbach Apha
		>.5	<.05	>.7	>.5	>.6
Continuous Learning	4	0.771	0.000	0.946	0.815	0.918
Embedded Systems	3	0.735	0.000	0.927	0.810	0.881
Empowerment	3	0.766	0.000	0.972	0.921	0.957
Provide Leadership	2	0.500	0.000	0.925	0.861	N/A
Business Performance	4	0.727	0.001	0.814	0.524	0.663

Table 2: Discriminant Validity

		Continuous Learning	Embedded Systems	Empowerment	Strategic Leadership
Continuous Learning	Pearson Correlation	***0.815**			
	Sig. (2-tailed)				
Embedded Systems	Pearson Correlation[2]	.669**	***0.810**		
	Sig. (2-tailed)	.000			
Empowerment	Pearson Correlation[2]	.447**	.561**	***0.921**	
	Sig. (2-tailed)	.000	.000		
Strategic Leadership	Pearson Correlation[2]	. 412**	.476**	.378**	***0.861**
	Sig. (2-tailed)	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed)

*Bold Values are AVG Values and the sample size is 40.

As shown in **Table 1** presents the results of the tests carried out**.** According to the results the KMO values were greater than 0.5 and BTS-chi square values were significant. The Composite Reliability statistics for all variables were greater than 0.7 and Average Variance Extracted values were greater than 0.5. Thereby it can be concluded that convergent validity is established.

The reliability was tested using Cronbach's Alpha values which were greater than 0.7 for all variables which are satisfactory. As there were two indicators for positive leadership, the correlation was used to measure the consistency instead of Cronbach's Alpha, and the results shown that there is a high correlation between two indicators.

Table 2 shows the results of the discriminant validity which can be defined as a type of construct validity that assesses the extent to which a measure does not correlate with other constructs from which it is supposed to differ. The AVE value of the respected dimension should be greater than the respective r^2 value. Malhotra & Dash (2010)

Results and Analysis

In order to investigate into which degree the Manufacturing industries in Sri Lanka have embraced the concept of Learning Organizations, one sample t-test was used. The researcher obtained the mean of 4 LO variables as LO and assumed 2.49 to 3.49 as the neutral and above 3.5 as high (Mean = 3.4375, standard deviation =0.90872).

Likert scale was used to measure the LO concept in manufacturing organizations ranging from strongly disagreed =1to strongly agreed =5, According to t- test, the manufacturing industries in Sri Lanka is neutral to Learning organization concept and they are in infancy to implement a learning climate that promotes innovations and new product and process development.

In order to test the hypothesis, the Regression Analysis was carried out.

The impact of LO on BP

To examine whether embracement of Learning Organization concept has an impact on Business performance on such manufacturing industries the present paper has used regression analysis.

R^2 is 33.4% of the variance is represented by the model and significant value (p-value) is less than .05, under 5 % of significance level. Hence the regression model is accepted.

When considering unstandardized coefficients and the standardized Coefficients of the model, LO-unstandardized beta is 0.452 and the standard error is 0.103, and the significance is 0.000. Constant –Unstandardized beta is 2.705 and the standard error is 0.363 and the significant value is 0.000.

$$BP = 2.705 + 0.452\ LO$$

Standard error (0.363) (0.103)

The parameter is also significant under 5 % level. The regression model represents the 33.4% of the total variance according to the R^2 value. Since R^2= .334, 33.4% of the variance is represented by the model. Variance of Business Performance (BP) is explained by Learning Organization- 34% ANOVA table significant p value = 0..000 and the Strength of the association- Beta co efficient = 0.452.Hence Statistical analysis proves the hypothesis true and reveals that Adoption

of Learning Organization concept by Manufacturing Industries in Sri Lanka has a positive correlation with Business Performance .

The Most Prominent Dimensions of the LO concept that influence Business Performance

To find the most prominent dimensions of the learning organizations concept that influence business performance, Correlation Analysis is used

Table 3: The Correlation Analysis- Pearsons Correlation values

	Continuous Learning	Embedded Systems	Empowerment	Strategic leadership	Business Performance
Continuous Learning	1				
Embeded Systems	**.818****	1			
Empowerment	.696**	.749**	1		
Strategic leadership	.642**	.690**	.615**	1	
Business Performance	.527**	.602**	.500**	.411**	1

*Correlation is Significant at 0.02 level and N = 40

As shown in Table 3, **s**ince the highest correlation with BP- business performance (.602) is reported with Embedded Systems the most prominent dimension of LO that affects Business Performance is Embedded Systems.

Table 4: Multiple Regression Analysis of components of the LO –and the Business Performance

Variable	**Coefficient Beta**	**Standard Error**	**Significance**
Constant	2.832*	0.392	0.000
Embedded Systems	0.433*	0.194	0.000
Continuous Learning	0.062	0.173	0.720
Strategic Leadership	-0.28	0.133	0.835
Empowerment	0.066	0.132	0.623

$R^2 = 0.363$

*Significant at 0.05 level

Furthermore as shown by Table 4 Multiple Regression Analysis of components of the LO –and the Business Performance revealed that Embedded Systems are the most significant factor of LO that affect the business performance conforming the previous results. R square =0.363, adjusted R square =0.346 at significant value 0.000 and the Beta value for Constant and the Embedded Systems are 2.832 and 0.433 respectively.

Discussion

Research Findings reveal that the most of the Sri Lankan manufacturing companies are in its infancy and are neutral in embracing LO concept. In relation to the in depth Interviews conducted by present researcher with the Marketing professionals as well as CEOs of the Manufacturing organizations revealed that Tacit Knowledge or the "**Tacit Brain Waves**" of the well veterans can best be shared with the future generations of the workforce if carefully stored and maintained through Proper Knowledge Management strategies and in turn this will result in more efficient work methods that will yield improved business performance.

Secondly there is a positive correlation between Learning organizations and the Business Performance in manufacturing industries in Sri Lanka. The results are consistent with Weldy (2009), Davis and Daley (2008) and Ellinger (2002). The companies which have been enlightened with LO concept by implementing embedded systems being the most prominent factor, subordinates empowered, flat hierarchical organizational structures which promotes a shared vision through collaborative spirit de corps, encourage having holistic view of the entire organization through systems thinking, provide ample opportunities for continuous lifelong personal mastery that encourage innovations of new product development and more efficient work processes, have gained a sustainable better Business Performance (BP) of highly volatile global business environment.

Moreover as Smith and Tosey (1999) have shown, evidences linking characteristics of Learning Organizations to Business Performance Improvements can obviously help convince Sri Lankan "Well Determined" business people to commit sufficient resources by risking their money on Learning Oriented Journey thereby encouraging them embracing LO concept more and more in the near future.

The most influential factors of LO were found to be the Embedded Systems on Business performance even though the previous researchers found that Strong Leadership was the most prominent factor of LO which affects the business performance. Davis and Daley (2008) emphasize that Leadership must ultimately be the mindset for everyone. Kim and Callahan (2012) state that Leaders champion learning experience through proper learning Transfer and use the learning strategically for organizational outcomes. Contrary to the above findings, in Sri Lankan Manufacturing sector even though leadership plays a vital role in direction of the employees toward a shared vision, the most prominent factor was found to be the Embedded Systems that are necessary systems created, maintained and integrated with other work which accessibility of such knowledge to high and low technology systems in manufacturing industries in Sri Lanka ensures financial growth. The result is in line with the other researchers who emphasizes that organizational variables are more influential than individual and team dimensions. The Second most influential factor is the Continuous Learning (CL) -learning through lifelong learning and personal mastery- the spiritual foundation of the learning organization – an essential corner stone or the discipline of continually clarifying and deepening our personal vision, of focusing the employees' energies, of developing patience, and of seeing reality objectively which will enable the business organizations to implement innovations that yield more sustainable competitive advantage and enhanced profits.

Conclusion

Sri Lankan Manufacturing industries are in infancy in embracing LO. Hence Business Organizations should determine to embrace the LO concept in order to enhance their Business Performance if ever to prosper in the ever changing business world where only certainty is the uncertainty. Considering the originality, the study contributes to literature by discovering that Sri Lankan Manufacturing Industries that have devoured systems to capture and share learning by implementing Embedded Systems have demonstrated excellent business performances on the contrary to the findings that the strategic visionary leadership as the most influential factor. When considering the Implications**, i**n the presence of highly turbulent business environment consisting of massive volatile economic conditions, impact of LO on business performance may masked by many other business environmental factors. Hence longitudinal studies, the different business performance measures and the cross cultural studies can bring more reliable credible generalizable results. Furthermore this research opens further research avenues by contributing to the advancement of the knowledge of LO in relation to the improved business performance and

lays the foundation for future studies in Sri Lankan manufacturing organizations that are intent on developing learning cultures and internal systems to support ongoing learning in hopes of fostering creativity and performance. The replication of the study in service organizations which dominates the Sri Lankan Economic sovereignty will result in healthier sustainable economy in the midst of turbulent business environments existing in global markets.

Reference

Baker, W.F. & Sinkula, J.M. (1999).The Synergetic Effect of the Market Orientation and the Learning Orientation and the Organizational Performance. Academy of Marketing Science Journal 27(4) 411-427.

Davis, D. & Daley, B. J. (2008). The Learning Organization and its Dimensions as Key Factors in Firms' Performance. Human Resource Development International, 11(1),51–66

Demma, K., Baker, J.P & Budds, N. (2005). The New Learning Curve. Marketing Management 14(5) 26-32

Ellinger, A.D., Ellinger, A.E, Yang, B. & Howton, S.W. (2002). The Relationship Between the Learning Organization Concept and Firms' Financial Performance: An Empirical Assessment. Human Resource Development Quarterly, 13(1), 5-21

Flood, R.L. & Romm, N.R.A. (1997). From Meta theory to Multi methodology in L Mingers and A Gill (eds.)Multi methodology: the theory and practice of combining Management Sciences Methodologies.(pp 291-322) Chichester John Willy & sons.

Garcia-Morales, V.J., Liorens-Montes, F.J. & Verdu-Jover, A.J. (2006).Antecedents and consequences of Organizational Innovation and Organizational Learning in Entrepreneurship. Industrial Management and Data Systems 106(1) 21-42

Garvin, D. (1993). Building Learning Organization. Harvard Business Review. 71(4) 78-91

Kaplan, R.S. & Norton D.P. (1996). Linking the Balance Scorecard to Strategy (reprinted from the Balanced Scorecard). California Management Review. 39(1), 53-79

Kim, J.H. & Callahan, J.L. (2012). Finding the intersection of the learning organization and learning transfer. The significance of leadership. European Journal of Training and Development. 37(2), 183-200

Marsick, V.J. & Watkins, K.E.(2003) "Demonstrating Value of Organizations Learning Culture: the Dimensions of Learning Organization Questionnaire" Advances in Developing Human Resources. 5(2) 132-151

Marquardt M.J. (1996). Building the Learning Organization: a Systems Approach to Quantum Improvement and Global Success. McGraw Hill, New York NY

Ortenblad, A. (2004) The Learning Organization: Towards an Integrated Model. The Learning Organization. 11(2) 129-144

Selden, G., Watkins, K.E, Valentine, T. & Marsick, V.J. (1998). Action imperatives that impact knowledge performance and financial performance in the learning Organizations An exploratory model In R.J. Torraco (Ed). Proceedings of the academy of Human Resource Development conference (pp 573- 578) Oak Brook Il, Academy of Human Resource Development

Senge, P.M. (1990).The Fifth Discipline: The art and practice of the Learning Organization New York Doubleday

Slater, S.F. & Narver, J.C. (1995) Market Orientation and the Learning Organization. Journal of Marketing 59(3), 63-73

Smith, P.A.C.& Tosey, P. (1999). Assessing the learning Organization: Part 1-Theoritical Foundations. Learning Organization, 6(2) 70-75

Song, J.H., Joo, B.K. & Chermack, T.J. (2009). The Dimensions of Learning Organization Questionnaire(DLOQ): A Validation Study in a Korean Context. Human Resource Development Quarterly 20(1) 43-64

Sun, P.Y. & Scott, J.L. (2003) Exploring the divide –Organizational Learning and Learning Organization. The Learning Option 10(4) 202-215

Torlak, G. (2004) Learning Organizations. Journal of Economic and Social Research 6(2) 87-116

Tseng, C. (2010). An Examination of Learning Organization practices for Small Enterprises in Taiwan: their effects on Organizational Commitment. http://www.Chien-chi.tseng@warrington.ufl.edu

Watkin, K.E. & Marsick, V.J. (1993). Sculpting the Learning Organization Lessons in the Art and Science of Academic Change San Francisco, Jossey Bass.

Watkins, K.E. & Marsick,V.J. (1999) Dimensions of Learning OrnaizationQuestionnaire. San Franscisco. Jossy Bass.

Weldy T.G. (2009). Learning Organization and Transfer: Strategies for Improving Performance The Learning Organization 16(1) ,58-68

Yang, B., Watkins, K.E. & Marsick, V.J. (1998). Examining construct validity the dimensions of the Learning Organization Questionnaire. In R Torraco Ed Proceedings of the Academy of Human resource Development (pp 83-90) Oak Brook Il Academy of Human Resource Management

Yang, B., Watkins, K.E., & Marsick, V.J. (2004). The Construct of the Learning Organization : Dimensions, Measurement and Validation. Human Resource development Quarterly 15(1), 31-55

Manuscript Submission

Colombo Journal of Multidisciplinary Research (CJMR)-

Faculty of Graduate, University of Colombo

Manuscripts should be between 7000 and 10000 words in length and ideally combine theory with empirical analysis. Papers may be from any areas of studies since the journal is targeted multi-disciplinary studies.

All articles must be accompanied by an abstract of **150 words**, approximately **five key words**, and full institutional affiliation, postal and email addresses and brief profile of the author/s. All the paper must at least clearly include (1) introduction (background information, research issue, objectives, and outline of the paper), (2) Literature review, (3) theoretical review, (4) conceptual framework including hypotheses, (5) methodology, (6) results and discussion, (7) conclusion, and (8) list of references.

Papers submitted to CJMR (cjmrfgs@gmail.com) must not be under consideration by any other publisher; authors must attest to this at the time of submission. It is also the author's responsibility to disclose any potential conflict of interest regarding the submitted manuscript.

The CJMR is a peer-reviewed journal and follows a two-step review process. All papers submitted to the CJMR are first scrutinized by the editors to determine suitability. Papers found to be suitable are then assessed by peer referees using a double-blind review process. The CJMR strives to provide authors with a publication decision within two months of submission of their papers.

Papers should be formatted in MS Word and sent electronically to the Editor at cjmrfgs@gmail.com

Manuscript Formatting

1. All articles should be typed on one side of the paper (preferably A4) and 1.5 -spaced throughout (not only the text but also displayed quotations, notes, references and any other matter).

2. Notes should be numbered serially and presented at the end of the article. Notes must contain more than a mere reference.

3. British spellings be used throughout; universal 'z' in '-ize' and '-ization' words.

4. Use single quotes throughout. Spellings of words in quotations should not be changed. When directly quoting from a work, include the page number in the citation.

5.,For exact measurements use only figures (3 km, 9 per cent *not %*). Use international number system (i.e., thousands, millions, billions, etc.).

6 . References are to be embedded in text in the anthropological style, e.g., '(Smith, 2012) Citations should be first alphabetical and then chronological, for example, (Ahmed, 2000, 2012; Daminda 1987, Vidanagama 1960)'. **Citation styles:** *One Work by One Author*: (Walker 2000); *One Work by Multiple Authors*: (Walker and Weerasinghe, 2000); *Two or More Works by Different Authors in One Citation*: (Balda, 1980; Kamil, 1988, Pepperberg & Funk, 1990); *Two or More Works by the Same Author(s) in One Citation*: (Edeline & Weinberger, 1991, 1993); *Two or More Works Published in the Same Year by the Same Author(s)*: (Johnson, 1991a, 1991b, 1991c). (Silva et al., 2009), Silva et al. (2010) states …

9. Tables and figures to be indicated by number (e.g., see Table 1), not by placement (e.g. see Table below). Short and crisp titles and headings in tables and figures are preferred. Present each table and figure on a separate sheet of paper, gathering them together at the end of article.

10. All articles, books and theses should be listed in alphabetical order of author, giving the author's surname first followed by initials. If more than one publication by the same author is listed, the items should be given in chronological order. Below are the few examples of APA style referencing (for detailed referencing style, please refer to the Publication Manual of the American Psychological Association):

Book

Andreasen, N. C. (2001). *Brave new brain: Conquering mental illness in the era of the genome.* Oxford, England: Oxford University Press.

Edited Book:

Teheranian, M., Hakimzadeh, F., & Vidale, M.L. (eds.). (1977). *Communications policy for national development: A comparative perspective.* London: Routledge&Kegan Paul Ltd.

Chapter in an Edited Book:

Ferres, K. (2001). Idiot box: Television, urban myths and ethical scenarios. In I. Craven (Ed.), *Australian cinema in the 1990s* (pp. 175-188)**.** London, England: Frank Cass.

Journal Article: Online and Hardcopy

D'Haenes, L., Jankowski, N., & Heuvelman, A. (2004). News in online and print newspapers: Differences in reader consumption and recall. *New Media &Society,* 6(3), 363–382.

Storey, K. B. (2004). *Functional metabolism: Regulation and adaptation*. Retrieved from http://www.netLibrary.com/urlapi.asp?action=summary

Magazine Article:

Gowariker, I., & Anderson, P. (2009, August).Guided by Angels.*Dare: Because Entrepreneurs do*, *2*, 18.

Newspaper Article:

Sengupta, D. (2009, December 2). Economy, Finance & Markets: Night lights to help figure out real economic growth now. *The Economic Times*, p. 7.

Website:

Sen, A. (2006, March 29). *What clash of civilization? Why religious identity isn't destiny.* Retrieved 2 December 2009, from http://www.slate.com/id/2138731/

Website (no author or date):

Islam in India.(n.d.). Retrieved 2 December 2009, from http://adaniel.tripod.com/Islam.htm

Unpublished Work:

Srivastava, N. (2008). *Attrition: A critical trouble for Indian IT Companies.* Unpublished dissertation thesis. Mudra Institute of Communications, Ahmedabad.

Conference Proceedings:

Schnase, J.L., & Cunnius, E.L. (Eds). (1995). Proceedings from CSCL '95: *The First International Conference on Computer Support for Collaborative Learning*. Mahwah, NJ: Erlbaum.

More cases consult APA referencing style.