# MEASUREMENT SCALES FOR THE SUPPLIER DEVELOPMENT, BUYER-SUPPLIER RELATIONSHIP, AND SUPPLIER PERFORMANCE IN THE PERSPECTIVE OF SUPPLIERS OF THE ASIAN COUNTRIES

**H.L.M. De Silva**[*]

**P.G.A.Jayarathne**[**]

## Abstract

*Keywords:*

Supplier development practices;

Supplier performance;

Buyer-supplier relationship.

Enhancing the performance of suppliers through developing their capabilities provides more sustainable platform to sustain the competitive advantagesand manage the supply base in current the global business environment. Developing and maintaining fruitful relationship between buyer and suppler also plays an important role in enhancing the supplier performance through supplier development. Despite the fact that Asian countries significantly contribute to world economy mainly as suppliers in several industries, the important aspects of supply management – supplier performance, supplier development and buyer-supplier relationship – have mainly been conceptualized and measured in the perspective of developed countries. Thus, it is needed to measure these concepts in the perspective of Asian countries especially allowing the supplier's point of view.

[*]**Department of Operations Management, Faculty of Management, University of Peradeniya, Sri Lanka**

[**]**Senoir Lecturer,Department of Marketing Management, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura, Sri Lanka**

Accordingly, the aim of the paper is to develop measurement scales for suppler performance, supplier development and buyer-supplier relationship in the supplier's perspective in the Asian countries context. Both content analysis and survey methods are used reflecting the mixed research approach. In the survey method structured questionnaire is used as the data collection instrument for a sample of 100 companies in the clothing industry in Sri Lanka. Three new measurement scales are developed on priory basis. Implications are discussed for scholars and practitioners in the Asian countries context.

## 1. Introduction

In the present day, the competitive position of a business entity heavily depends on its ability to manage the supply chain productively which may maximize the overall value creation. In this milieu, organizational buyers have identified, developing their suppliers which is called as 'supplier development practices' as an emerging trend and rewarding way to maintain the competitive position. According to [1] 'any effort of a buying firm with a supplier to increase performance and/or capabilities and meet the buying firm's short and/or long term supply needs' can be defined as a supplier development practice. It is believed that supporting suppliers to improve their capabilities and performance will enhance the competitive position of buying organizations.

Globalization, changes in the international trade policies and practices, development of new markets are only few changes that demand supply networks to move their supplier base from developed countries to first industrial countries and then to developing countries, mainly to the Asian context. Consequently, today many developing countries in Asia are supplying a range of products such as agricultural products, textile and clothing items, home appliances, toyes etc. to the global market accounting one-third of world trade and has become much more significant with a remarkable change in traditional trade relationships [2].

Despite the singnifance of Asian countries to the world economy and their role as suppliers, the imporatnt supply chain management conepts for gaining competitive advantages – supplier performance, supplier development practices and buyer-supplier relationship – have mainly been investigated in the developed countries (western countries) context [3]. In particular, [4] stated that knowledge around the supplier development is largely based upon empirical studies conducted in North America. However, owing to the cultural diversity, technological and resource disparity supplier development practices and techniques incepted and used in developed countries is hard to apply as it is in the Asian countries. Thus, the forementioned supplier development related concepts/practices should be investigated and in particular new measurement scales should be developed in the Asian countries context. Some scholars, for instance [4], have directly states the need of invetigating supplier development and related areas in the South Asian context. Further, among the existing literature, predominant amount of research has been done from the buying firms' perspective and only few are from supplier's perspective [5]. Thus, inverstigating the above noted concepts under supplier's perspective is also a need in the exsisting knowledge.

Addressing such gaps in the literature, the purpose of the current paper is to develop measurement scales for supplier performance, supplier development practices, and buyer-suppleir relationship in the perspective of Asian countries under the perspective of suppliers. Taking the contribution making to the International Cloting Industry on board Sri Lanka has been selected as the research context of the current paper. Moreover, [3] particularly bought up the fact that the number of studies and publised work dedicated for textile industry and its sub-sectors which explore these practices remain exceptionally low.

## 2. Literature review

2.1 Supplier performance

From the management perspective, performance provides the necessary information about the success and potential of management strategies. In measuring organizational effectiveness, business performance can be measured financially or non-financially. Non-financial measures also can name as operational measures. Operational measures of performance can further classify as key competitive success factors (quality, delivery, price, service, and flexibility) and internal indicators (defects, schedule realization, and cost). This study focuses on measuring the extent of

business goals achievement through in the form of improvements in key competitive success factors. [6] in their study on identifying strategic priorities of suppliers to be considered in selecting a supplier in textile industry, discoved six critirias to be considered namly cost, quality, delivery, flexibility, innovation and trust. In addition, [7] in measuring supplier performance used operational perfromance (cost, quality, delievery, inventory) and capability imporvements (product design, porcess techonology improvements). However, taking insights from [8], this study consider key competitive success factors of: quality, delivery, service, flexibility, and cost in measuring supplier performance as these measures have taken the suppliers' perspective that matches with the perspective of the current study. The indicators used for the study are shown in Table 1 below.

Table1: Supplier performance indicators

| Indicator | Source | | |
|---|---|---|---|
| | **[8]** | **[6]** | **[7]** |
| Product quality | ✓ | ✓ | ✓ |
| Delivery performance | ✓ | ✓ | ✓ |
| Price | ✓ | ✓ | ✓ |
| Responsiveness to requests for changes | ✓ | ✓ | |
| Service support | ✓ | | |
| Overall performance | ✓ | | |

2.2 Buyer- Supplier Relationship

During the last few years, the nature of buyer-supplier relationships has been undergone some dramatic changes [8] and current era of business demands a steady and long lasting partnerships with supply chain partners [9]. It is found that competitive firms are moving away from traditional approach of adversarial relationships with multiple suppliers to one long lasting relationships with selected suppliers (Kalwani & Narayandas, 1995 as citd in [9]. In that milieu,business relationships have been paid attention in several lines of research [10].

Today, buyer- supplier relationship in the supply chain is identified as one of the most important elements of supply chain integration and maintaining such relationships with every link in the supply chain is becoming the prerequisite for business success.[11] pointed out that, performance imporvement and competitive advantage can be achieved through relationships with suppliers focusing which take account of trust, supporting suppliers in porcess imporvement, informaiton sharing, use of smilar techonology in buying and supplier organiations and supplier participation in buyer programs etc. However, despite the seeming importance of these shifts, the literature is deficient in some important ways and there is no theoretical framework that explicates the content or dimensions of buyer-supplier relationship. The unavailability of literature relating to local or South Asian context provides no clue about the current situation in the region.

Owing to the significance of the buyer-supplier relationship in the current supply chain management context, scholars have used different dimensions and indicators to measure the same. The key papers focus on dimensions of buyer-supplier relationship is given in Table 2 below. The dimensions of buyer-supplier relationship identified by [8] from supplier's perspective were considered in this study to conceptualize in Asian countires context.

Table 2: Buyer-supplier relationship dimensions

| Dimension | Source | | | |
|---|---|---|---|---|
| | [8] | [12] | [13] | [14] |
| Commitment | ✓ | ✓ | | |
| Cooperation | ✓ | | ✓ | ✓ |
| Operational linkages | ✓ | | ✓ | |

2.3 Supplier Development

According to [15], Supply chain management is the term used to describe the management of the flow of materials, information, and funds across the entire supply chain, from suppliers to component producers to final assemblers to distribution (warehouses and retailers), and ultimately to the consumer. In this chain when organizations find its suppliers are lack in

performance, they can help suppliers to develop their capabilities [7] and there is strong evidence that this concept is widely use in today's turbulent environment and yield benefits comparing to other possible alternatives available. The term 'supplier development' is initially proposed by Leenders [16], to describe efforts by manufacturers to increase the number of viable suppliers and improve suppliers' performance. It is found that the origin of this concept can be seen from Japanese automotive industry and then the concept was adopted by Western companies in 1990 [11]. Taking insights from the finidngs of [17], this research consider supplier development definition from capability-performance approach and consider the defnition made by [1] "any effort of a buying firm with a supplier to increase its performance and/or capabilities and meet the buying firm's short-and/or long-term supply needs". According to this definition, the supplier development activities intitiate by buying firm foucs on sloving specific production problems of suppliers and making immediate improvements in the supplier's operations (performance approach) and making continuous imporvement through clutivating the supplier's techinical, quality, delivery, and or cost capabilities (capability approach).

Eventhough each organization approach supplier development decisions differently, [18] were among the first to develop a generalized conceptual model which can be used in formulating organizations decisions on supplier development. Until today, many authors identified different types of supplier developemnt practices (e.g.[1]; [19]; [20]; [21]; [22], [23]) and tried to classify them in to different categories such as external & internal ([20]), direct & indirect [24], transaction specific & infrastructure factors ([22]), low involvement & high involvement [10], narrow sense & broder sense [18] etc. [17] identified 565 such supplier development activities and found that many studies examine the same supplier development activitiy, but indifferent settings making no meaningful classification of supplier development activities. With a consolidation of total available activities considering all available studies counducted from buyer or supplier perspective from 1996 to 2010 as a 15 years of window [17] identified 30 types of activities. This study also have taken these 30 supplier development activities in to consideration as shown in Table 3 to conceptualize in developing countires context.

Table 3: Supplier development activities

| No. | Supplier development Activity | Source | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | [17] | [1] | [23] | [22] | [10] | [7] | [20] | [24] | [25] | [5] | [26] | [19] | [21] |
| SD1 | Supplier Evaluation | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| SD2 | Supplier Training | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | |
| SD3 | Direct Incentive | ✓ | ✓ | ✓ | | ✓ | | ✓ | | | | | | |
| SD4 | Performance Expectation | ✓ | ✓ | | ✓ | | ✓ | | | ✓ | | | ✓ | |
| SD5 | Financial Support | ✓ | | ✓ | | ✓ | | | ✓ | | ✓ | | | |
| SD6 | Physical Asset Support | ✓ | | ✓ | ✓ | ✓ | | | | | ✓ | | | |
| SD7 | Technical Assistance | ✓ | | | | | | | | | | | | |
| SD8 | Managerial Assistance | ✓ | | | ✓ | | | | | | | | | |
| SD9 | Information Sharing | ✓ | | | | | | | | | | | | ✓ |
| SD10 | Supplier rating | ✓ | | | | | | | | | | ✓ | | |
| SD11 | Supplier Involvement | ✓ | | | ✓ | ✓ | | | | | | | | |
| SD12 | Plant Visit | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| SD13 | Invite Supplier to Visit | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | ✓ | | | |

| ID | Factor | | | | | | | | | | | | | |
|----|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SD14 | Dynamic Communication | ✓ | | | ✓ | | | | | | | | | |
| SD15 | Supplier Certification | ✓ | ✓ | | | ✓ | ✓ | | | | | | ✓ | |
| SD16 | Competitive Pressure | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | | | | |
| SD17 | Co-Location | ✓ | | | ✓ | | | | | | | | | ✓ |
| SD18 | Supplier Council | ✓ | | | | | | | | | | | | |
| SD19 | Quality Emphasis in Supplier Selection | ✓ | | | | | | | | | | ✓ | | |
| SD20 | Supply base reduction | ✓ | | | | | | | | | | ✓ | | |
| SD21 | Community of Suppliers | ✓ | | | | | | | | | | | | |
| SD22 | Promise of Business | ✓ | ✓ | | | | ✓ | ✓ | | | | ✓ | | |
| SD23 | Supply base rationalization | ✓ | | | | | | | | | | | | |
| SD24 | Quality Assurance | ✓ | | | | | | | | | | | | |
| SD25 | Employee Exchange | ✓ | | | | | | | | | ✓ | | | |
| SD26 | Clear Specification | ✓ | | | | | | | | | | ✓ | | |
| SD27 | Trust Building | ✓ | | | ✓ | | | | | | | | | |
| SD28 | Evaluation Feedback | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | ✓ |
| SD29 | Joint Action | ✓ | | | ✓ | | | | | | | | | |
| SD30 | Buyer's Involvement | ✓ | | | | | | | | | | ✓ | | |

## 3. Research Method

This paper is explorative in nature as it develops the measurement scales for the supplier performance, supplier development practices and buyer-supplier relationships in the perspective of the Asian countries context. Mixed research approach is used. First, the content analysis was carried out for all these concepts in order to accurately define the domain and to identify the dimensions and indicators of the concepts. In the second phase of the study, a survey is carried out with all the clothing manufacturers in Sri Lanka who involve in export and registered under Sri Lanka Export Development Authority (SLEDA) by 2017. SLEDA is the regulatory authority in Sri Lanka to get all the clothing item exporters registered. 100 structured usable questionnaires have been used. It is single cross sectional in time horizon and conducted in non-contrived environment.

An Exploratory Factors Analysis (EFA) and Confirmatory Factor Analysis (CFA) were carried out using SMART PLS. Measurement scales were then validated and reliability is ensured.

## 4. Results and Analysis

4.1 Developing the Measurement Scales

After several iterations of EFA and consequently the CFA three new measurement scales were developed for supplier development practices, supplier performance and buyer-supplier relationship respectively. In the process of iteration a total of 39 indicators were removed from the analysis due to their low factorial loadings (below 0.60 loading). They are namely lookout to reduce dependence, joint problem solving, feeling of what supposed to be doing, our relationships as a cooperative effort rather than an adversarial effort, invite supplier to visit, competitive pressure, supply base reduction, flexibility in joint problem solving, expect to buy products for a long time, retailing organizations' investments, take the advantage of a strong bargaining position, work together to achieve mutual goals, coordination, routine and well-established system that facilitate the links between supplier operations with the retailing organizations' operations, dynamic communication, performance expectation, financial support,

physical asset support, closely linked business activities, employee exchange, plant visit, direct incentive, price, co-location, evaluation feedback, promise of business, supplier council, supplier certification, supplier rating, supplier involvement, supplier evaluation, responsiveness to requests for changes. Thereafter, twelve supplier development practices have been identified and 4 indicators and 5 indicators have been derived for supplier performance and buyer-supplier relationship respectively. Results of CFA for the respective measurement scales are presented in Table 4.

Table 4: Results of Confirmatory Factor Analysis for Measurement Scale for Supplier Development Practices, Supplier Performance and Buyer-Supplier Relationship

| Description | Item loading |
|---|---|
| Supplier development practices | |
| Quality Emphasis in Supplier Selection | 0.687 |
| Supplier Training | 0.694 |
| Community of Suppliers | 0.782 |
| Supply base rationalization | 0.636 |
| Quality Assurance | 0.709 |
| Clear Specification | 0.632 |
| Trust Building | 0.722 |
| Joint Action | 0.719 |
| Buyer's Involvement | 0.670 |
| Technical Assistance | 0.702 |
| Managerial Assistance | 0.757 |
| Information Sharing | 0.771 |
| Supplier performance | |
| Product quality | 0.655 |
| Delivery performance | 0.647 |
| Service support | 0.807 |
| Overall performance | 0.760 |
| Buyer-supplier relationship | |

| | |
|---|---|
| Commitment | |
| Loyalty | 0.747 |
| See relationships as long-term partnerships | 0.738 |
| retailing organizations' commitment | 0.741 |
| Cooperation | |
| Concern about supplier company's success | 0.668 |
| Flexibility | 0.644 |

4.2 Validation of the Measurement Scales

Composite Reliability (CR) and Average Variance Extracted (AVE) were used to measure the convergent validity. In order to satisfy the convergent validity, AVE should be greater than 0.5 (Henseler, Ringle&Sinkovics 2009 as cited in [27] and CR value should be greater than 0.7 (Henseler, Ringle&Sinkovics 2009 as cited in [27]. Such requirements were ensured and results are given in Table 5.

Table 5: Summary of the test results of Convergent Validity

| Variable | AVE | CR |
|---|---|---|
| Buyer-supplier relationship | 0.502 | 0.830 |
| Supplier performance | 0.525 | 0.809 |
| Supplier development | 0.503 | 0.922 |
| Reference criteria | AVE> 0.5 | CR> 0.7 |

Hence the bootstrapping values are more accurate, we paid attention to the significant values of AVE's after bootstrapping. As per the Table 4.3, it is evident that the mean value of AVE of buyer-supplier relationship is 0.502, supplier performance is 0.525 and supplier development is 0.503. In addition to that, Table 4.3 provides evident that the CR of buyer-supplier relationship is 0.830, supplier performance is 0.809 and supplier development is0.922. With that, convergent validity of the measurement scales was satisfied.

Discriminant validity is an indicator that the constructs or variables are independent from one another and it ensure the construct validity. In simple, it measures if the square roots of the AVEs of variables are greater than the correlations between the constructs [27]. In this case it is

seems that the correlation between supplier development and buyer-supplier relationship (0.732) is slightly larger (0.023 or 2.3%) than the square root of the AVEs of these same variables (0. 709 and 0.708). Being that the values indicated have little difference, thus, the model was left without any alteration.

Table 6: Test result of the Discriminant validity

| Variable | Buyer Supplier Relationship | Supplier Performance | Supplier Development |
|---|---|---|---|
| Buyer-supplier relationship | 0.709 | - | - |
| Supplier performance | 0.630 | 0.720 | - |
| Supplier development | 0.732 | 0.655 | 0.708 |

*Notes:*

*1: Square root values of AVE values are presented in bold.*

*2. Paired correlation coefficients are presented in the cells below AVE values.*

Table 7: Test results of the Heterotrait- Monotrait (HTMT) Ratio

| Variable | Buyer Supplier Relationship | Supplier Performance |
|---|---|---|
| Buyer-supplier relationship | - | - |
| Supplier performance | 0.622 | - |
| Supplier development | 0.731 | 0.650 |

This is an additional measure of discriminate validity. However, this test measures whether these are same or different in factors. The threshold that we measure is 1. If the values are less than 1 (<1) we consider they are different in factors. In this case, buyer-supplier relationship with supplier performance is 0.622 which is lower the threshold (0.622<1), buyer-supplier relationship with supplier development is 0.731 which is lower the threshold (0.731 <1) and supplier performance with supplier development is 0.650 which is lower the threshold (0.650 <1) hence the discriminant validity is satisfied.

Then, Cronbach's Alpha is used in testing inter-item consistency as it is the most popular test of inter-item consistency reliability. Cronbach's Alpha can consider as a perfectly adequate index of the internal consistency. According to the table 8inter-item consistency is good for the buyer-

supplier relationship and supplier performance while it is excellent for the supplier development practices[28].Accordingly inter-item consistency is ensured.

Table 8: Results of the Cronnach's Alpha values

| Variable | Cronbach's Alpha | No. of indicators used |
|---|---|---|
| Buyer-supplier relationship | 0.835 | 5 indicators |
| Supplier performance | 0.814 | 4 indicators |
| Supplier development | 0.923 | 12 indicators |

From the 30 supplier developmentpractices derived through the content analysis and then tested, it is found that only 12 activities are significant in Sri Lankan context.  Such supplier developmentpractices are: (1) paying attention on quality (versus price or schedule) in their supplier selection decisions, (2) buyer send its employees to the supplier's facility to offer training or the inviting the supplier to participate in training that is offered at buyers facilities expecting supplier performance improvement, (3) creating a platform or network for suppliers to facilitate supplier learning ongoing communication, (4) developing a core family of suppliers that are more competitive and reduce the number of suppliers and depend on few quality suppliers,(5) the use of quality assurance programs for monitoring supplier's processes and products, (6) requiring suppliers to meet stricter the clear quality specifications given, (7) developing a long-term relationship with suppliers and proactive attitude of a buyer towards supplier development, (8) working with supplier to improve performance or solve problems and build up their business, (9) involving with supplier's product development process, operations, supplier's planning and goal-setting activities, (10) providing assistance in terms of automation and modernization of machinery, upgrading of tooling and equipment, facilitating technical agreements etc., (11) providing managerial guidance or procedures to improve suppliers' performance, and (12) communicating critical and proprietary information to supplier.  These practices were scored high in Sri Lankan context and the other 18 indicators reported not significant. Those are namely: (1) supplier evaluation, (2) supplier rating, (3) supplier involvement, (4) plant visit, (5) invite supplier to visit, (6) dynamic communication, (7) supplier certification, (8) competitive pressure, (9) co-location, (10) supplier council, (11) supply base reduction, (12) promise of business, (13) employee exchange, (14) evaluation feedback, (15)

direct incentive, (16) performance expectation,(17) financial support, and (18) physical asset support.

Among the existing literature, predominant amount of research has been done from the buying firms' perspective and only few are from supplier's perspective. There are only 3 published papers that examine supplier development from the supplier viewpoint in global context [5]. Hence, establishing the findings of this study linking to existing literature is exigent. Further, there are substantial differences between the perceptions of customer and that of the suppliers about customer supplier development activities therefore matching the findings of this study (from suppliers' perspective) with the previous findings (from buyers' perspective) is also bit hard[5]. It is evident here as 18 supplier development practices identified in buyers' perspective were not important in the suppliers' perspective context. In addition to that, [4] have highlighted that no study has been found that was conducted exclusively to investigate core supplier development practices in textile industry. However, suppliers in Sri Lankan context believe the above mentioned 12 activities are implemented on them notably by their buyers comparing to other 18 activities. With reference to the available literature which considered supplier perspective, [5] emphasised that suppliers are more concern about clear specifications and close working relationships (possibly joint action) are the areas that suppliers pay more attention and supported the finidings of this study. However, [5] stated that suppliers pay less attention to 'quality emphasis in supplier selection' but in contrary, it is found significant in Sri Lankan context.

This study is focused on measuring the extent of business goals achievement in the form of improvements in key competitive success factors as operational (non-financial) measures of business performance. It should be noted that, business performance can be identified from different perspectives and here in this study attention was given from supply chain management perspective. Going in line with the existing literature (e.g. [22]; [17]; [23]; [11]; [8], [7]), this study found product quality and delivery performance as key indicators of supplier performance even in the Asian context. This finding also well-matched with the findings of [6] who highlighted that textile is a sector where quality is one of the key competitive success factor and on-time shipment in the correct quality rate (delivery) as a very critical factor. Since the clothing

category is mostly a high-end product with the most expensive fabrics and best fit, the quality might be an important factor in supplier perfromance improvement expectations. In addition, due to the shortening cycle time in fashion, speed might have become a very much important criteria for clothing suppliers to be improved interms of production lead time, sampling turn time and on-time shipment rate. In addition to that, as per [8]service support and overall performance also were significant in measuring supplier performance. These two indicators were not admired in past literature as key competitive success factors but considered by [8] in measuring supplier performance from supplier perspective and found significant. This is further confirmed by this study stating the highest (service support item loading = 0.807) and second highest (overall perromance item loading = 0.760) contrubution to supplier performance.

In relation to textile industry,[6] idendified trust as another strategic priority in measuring supplier perfromance and service support as one of the key dimension of trust. However, even though trust is not a dimension here in this study, 'service support' has found as a key indicator of supplier performance. Suprisingly, eventhough most of the prevaling literature suggest cost/price as an indicator of supplier performance imporvement, it was not counted significant in the Asian context. The reason might be the different perspective (supplier perspective) that was considered in this study or may be due to high empahsis on quality, or due to fact that Asian countries are comparatively able to supply products for low price. Because, [26] highlighted that if 'quality emphasis in supplier selection' supplier development activity places a high concern that will be in opposition of price. Moreover, [21] also confirmed that performance outcomes in quality and delivey are more important than cost in supplier devlopment context. This finding further par with [6] who also found interesting that cost is not a strategic priority in textile industry.

Through supplier's perception of buying firm's behavioral and operational relationship [8]suggested that buying firm's commitment, cooperation and operational linkages are as the key dimensions of buyer supplier relationship. However, in this study 'operational linkages' dimension does not support useful in Sri Lankan context and made low factor loadings towards the construct going in line with the empirical validation of [8] nevertheless suggested in theory. Among the indicators used to measure commitment dimension of buyer supplier relationship

three indicators namely; 'loyalty', 'see relationships as long-term partnerships' and 'retailing organizations' commitment' made high loadings. These indicators also empirically validated by [8]. Contrast to the findings of [8], one indicator of measuring commitment, 'expect to buy products for a long time' indicator did not support for Sri Lankan clothing industry. Going in line with the findings of [8], 'lookout to reduce dependence' and 'retailing organizations' investments' did not counted useful in Sri Lankan context as well. Corporation dimension was significant in measuring buyer-supplier relationship in Sri Lankan context but only two indicators: 'concern about company's success' and 'flexibility in response to requests' found significant.  Going in line with the findings of [8], three indicators: 'take the advantage of a strong bargaining position', 'work together to achieve mutual goals' and 'consider relationships as a cooperative effort rather than an adversarial effort' were not supported in this study as well. Though 'joint problem solving' and 'flexibility in joint problem solving' indicators suggested by [8]the findings were contradictory in this study. Even though,'concern about company's success' indicator dropped by [8] it was significant in measuring cooperation in Sri Lankan context.Nevertheless, 'flexibility in response to requests'indicator confirmed the findings of [8]. In all, commitment and cooperation dimensions found useful in measuring buyer supplier relationship in Sri Lankan context.

## 5. Conclusion

The purpose of the study was to develop measurement scales for supplier performance, supplier development, and buyer-suppleir relationship in the perspective of Asian countries. Sri Lanka has been selected as the research context of the current paper and downstream stream of clothing supply chain was considered in developing the scales for mentioned constructs from supplier's perspective.

In addressing the purpose, an explorative research iscarried out; firstly a content analysis was done for all the mentioned concepts in order to accurately define the domain and to identify the dimensions and indicators. Then, a survey was conducted employing a structured questionnaire as the data collection instrument for a sample of 100 companies in the clothing industry in Sri Lanka. SMART PLS was used in conducting Exploratory Factors Analysis (EFA) and Confirmatory Factor Analysis (CFA).

This study fills the theoritical gap preval and contributes the theory by exploring the widely used supplier development or most influencial supplier development activities, indicators to measure buyer-supplier relationship and supplier performance from suppliers' perspective in developing county context where there is dearth of investigation.

This study further provides managerial implications to practitioners to identify right combination of supplier development practices to be used in Asian countiries context. In particular, thestudy developes a measurement scale to measure buyer- supplier relationship and supplier performance in developing countries. Further, this is an eye openner for managers which reminds that they should pay enough attention to suppliers' standpoint inaddition to the buyers' perception in supplier devlopment initiatives. Also, buyers in the developed countries should seriously consider that strategies, practices and methods that they planed may not be suitable and thus not successfully in terms of developing suppliers, buyer-supplier relationships and supplier performance owing to the differences in the context (Asian Context) and the perception (supplier's perception). Therefore, it it advisable to encourage the effective information sharing and collaborative decision making between the buyers in developed countries and supplers in Asian countries for better supply chain level performance.

## References

[1]      Krause, D & Ellram, L 1997b, 'Success factors in supplier development', *International Journal of Physical Distribution & Logistics Management,* vol. 27, no.1, pp. 39-52.

[2]      *Market access for developing countires' exports* 2001,International Monetory Fund (IMF) & Chan World Bank.

[3]      Kureshi, N, Qureshi, F & Sajid, A 2009, 'An empirical study of supplier development practices in a developing economy- SMEs perspective', *Wseas Transactions on Business and Economics,* vol.6, no.6, pp. 255-268.

[4]      Rajput, A & Bakar, A 2012, 'Emements, benifits & issues of supplier developemnt contextualizing multiple industries', *Journal of Basic and Applied Scientific Research,*vol.2, no.11, pp. 11186-11195.

[5]     Ahmed, M & Hendry, L 2012, 'Supplier development literature review and key future research areas', *International Journal of Engineering and Techonology Innovation,* vol.2, no 4, pp. 293-303.

[6]     Koprulu, A & Albayrakoglu, M 2007, 'Supply chain management in the textile industry: a supplier selection model with the analytical hierarchy process', *Proceedings of Intrenational Symposium on the Analytic Hierarchy Process (ISAHP)* in *Viña Del Mar, Chile*, 3-6 August 2007.

[7]     Modi, S & Mabert, V 2007, 'Supplier development: improving supplier performance through knowledge transfer', *Journal of Operations Management,* vol. 25, pp. 42- 64.

[8]     Prahinski, C & Benton, W 2004, 'Supplier evaluations: communication strategies to improve supplier performance', *Journal of Operations Management,* vol. 22, pp. 39-62.

[9]     Mohanty, M & Gahan, P 2012, 'Buyer supplier relationship in manufacturing industry- findings from Indian manufacuring sector', *Business Intelligence Journal,* vol.5, no. 2, pp. 319-333.

[10]     Arroyo-Lopez P, Holmen E & de Bore, L 2012, 'How do supplier development porgrams affect suppliers? insights for suppliers, buyers and government form an empirical stuady in Mexico', *Business Process Management Journal,* vol.18, no. 4, pp. 680-707.

[11]     Al-Abdallah, G, Abdallah, A & Hamdan, K 2014, 'The impact of supplier relationship management on competitive performance of manufacturing firms', *International Journal of Business and Management,* vol. 9, no. 2, pp. 192-202.

[12]     Anderson, E & Weitz, B 1992, 'The use of pledges to build ans sustain commitment in distribution channels', *Journal of Marketing Research,* vol.29, no.1, pp.18- 34.

[13]     Cannon, JP, William D & Perreault, JR 1999, 'Buyer-seller relationships in business markets', Journal of Marketing Research, vol.36, no. 4, pp. 439-460.

[14]     Maloni, M & Benton W 2000, 'Power influences in the supply chain', *Journal of Business Logistics,* vol. 21, no.1, pp. 49-73.

[15]     Kannan, K. G. D. a. A. N. H., January 2010. Analyzing supplier development criteria for an automobile industry. *Industrial Management & Data Systems,* Volume vol. 1, pp. pp. 43-62.

[16]     Leenders, M 1966, 'Supplier development', *Journal of Purchasing and Materials Management,* vol. reprint 1989 in the 25th Anniversary edition, pp. 47- 55.

[17]     Chen, L, Ellis, S & Holsapple, C 2015, *Supplier Development: A Knowledge Management Perspective,* Ohio: Wiley Online Library.

[18]     Hahn, CK, Watts, CA Kim, KY 1990, 'The supplier development program: a conceptual model', *Journal of Purchasing and Materials Management,*vol. 26, no. 2, pp. 2-7.

[19]     Krause, DR, Handfield, RB & Scannell TV 1998, 'An empirical investigation of supplier development: reactive and strategic processes', *Journal of Operations Management,* vol. 17, pp. 39-58.

[20]     Krause, D, Scannell, T & Calantone, R 2000, 'A structural analysis of the effectiveness of buying firms' strategies to improve supplier performance', *Decision Sciences,* vol.3, no.1, pp. 33-55.

[21]     Krause DR, Handfield, RB & Tyler BB 2007, 'The relationships between supplier development, commitment,social capital accumulation and performance improvement', *Journal of Operations Management,* vol. 25, pp. 528–545.

[22]     Humphreys, PK, Li, WL & Chan, LY 2004, 'The impact of supplier development on buyer-supplier development', *The International Journal of Management Science,* vol. 32, pp. 131-143.

[23]     Tungjitjarurn, W, Suthiwartnarueput, K & Pornchaiwiseskul, P 2012, 'The impact of supplier development on supplier performance: the role of buyer-supplier commitment, Thailand', *European Journal of Business and Management,*vol.4, no.16, pp.183-193.

[24]     Wagner, S 2006, 'Supplier development practices:an exploratory study', *European Journal of Marketing,*vol.40, no.5/6, pp. 554-571.

[25]     Chavhan, R., Mahajan, S. & Sarang, J., 2012. Supplier Developmet: Theories and Practices. *IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE),* 3(3), pp. 37-51.

[26]     Forker, LB &Stannack, P 2000, 'Cooperation versus competition: do buyers and suppliers really see eye-to-eye?',*European Journal of Purchasing & Supply Management*, vol. 6, pp. 31-40.

[27]     De Silva, D & De Souza Bido, D2014**, '**Structural equation modelling with the SMARTPLS', *Brazilian Journal of Marketing*, vol. 13, no. 2, pp. 56 -73.

[28]     George, D & Mallery, P 2003, '*SPSS for Windows step by step: a simple guide & reference.* Boston: Allyn & Bacon.