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Journal of Business Studies (JBS)

The Faculty of Management Studies and Commerce publishes a journal entitled “Journal of Business Studies (JBS)” carrying research papers in various disciplines of business and management specially accounting and finance, human resources management, marketing and economics contributed by academics of Universities and others of Sri Lanka and abroad on a bi-annual basis during mid and end of the year.

JBS will provide forum for presenting the views of academics, researchers, practicing managers and entrepreneurs all over the world, on different business issues of contemporary relevance.

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It propose to encourage research relating to latest trends and practices in international business, finance, banking, marketing, human resource management, corporate governance, social responsibility and emerging paradigms in allied areas of business and management.

It intends to reach the researcher’s with plethora of knowledge to generate a pool of research content and propose problem solving models to address the current and emerging issues at the national and international level.

It aims to share and disseminate the empirical research findings with academia, industry, policy makers, and consultants with an approach to incorporate the research recommendations for the benefit of one and all.

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1. Each research paper submitted to the journal is subject to the following reviewing process:
2. Each research paper will be initially evaluated by the members of the editorial board for screening purpose.
3. The research paper(s) passed through screening at this level will be forwarded to two referees one from Sri Lanka and other from abroad for blinded review.
4. At this stage, two referees will carefully review the research paper(s), each of whom will make a recommendation to publish the paper in its present form/modify/reject.
5. The review process may take one/two months.
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- ❖ Business strategy
- ❖ Business laws and intellectual property rights
- ❖ Corporate governance
- ❖ Economics
- ❖ Finance and Risk Management
- ❖ Human Resource Management
- ❖ Marketing Management
- ❖ Management information system and information technology
- ❖ Organizational Behavior
- ❖ Operations and supply Chain Management
- ❖ Quantitative techniques in business

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BRAND IMAGE AND CUSTOMER SATISFACTION IN MOBILE PHONE MARKET: STUDY BASED ON CUSTOMERS IN KANDY DISTRICT

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ABSTRACT

In a competitive and Brand conscious market, building Brand Image of Mobile Phones is challenging task. In this context, this study aims to examine the relationship between Brand Image and Customer Satisfaction in Mobile Phone Market among Customers in Kandy District in Sri Lanka. Based on reviewed literature, it was found that the Brand Image was strongly related to Customer Satisfaction. Accordingly, four independent variables were identified as major dimensions of the Brand Image; Perceived Quality (PQ), Brand Loyalty (BL), Brand Awareness (BW) and Brand Association (BAs). This study was deductive, an exploratory type. The population of the study consisted in Mobile Phone users of Kandy District. 110 respondents were selected as the sample representing four main cities in the Kandy District; Katugastota, Pilimathalawa, Peradeniya, Akurana using the convenience sampling method. Questionnaire method was administrated to collect primary data. Descriptive statistics and inferential statistics techniques were applied to analyze the data. The hypotheses have been tested using Pearson correlation, regression and multiple regression analysis. It was indicated that Brand Awareness as the most significant factor related to Customer Satisfaction. Results showed that there is a significant impact of all independent variables (PQ, BL, BW, BA) on customer satisfaction in Mobile Phone Market. Recommendations were provided to marketers and managers in mobile phone industry to achieve high Customer Satisfaction through building strong Brand Image.

Keywords: Brand Image, Customer Satisfaction, Mobile Phone Market.

1. INTRODUCTION

In a competitive and dynamic business environment, the brand image of a product is very important to determine its market position. Brand image is the consumer's impression about the brand's physical characteristics, its performance, the functional benefits, the kind of people who use the product, the emotions and

associations it develops, and the imagery or symbolic meanings, it generates. Furthermore, Brands are introducing each and every day leads to an ever ending competition. At this juncture, making customers' brand loyalty is emerging as a big challenge but it is the need for getting a better market share and profitability. Even though it can only be done by making customer

satisfy and developing a good image in their mind . Customer loyalty and customer satisfaction are also widely accepted phenomena for all the companies, which is applied as a marketing benchmark for the performance of the company (Bennett and Rundle -Thiele, 2004 cited by Neupane, 2015). In order to attract new customers and retain the existing customers for any organization, the brand image is very important because of the fact that the customers always seek for branded products in this current competitive environment. Thus, companies are facing intense challenges in enhancing customer satisfaction and brand image. Sri Lankan mobile phone providers also as a growing industry must be given higher attention to the customer satisfaction since mobile phone users' preferences are frequently changing. So, mobile phone customers in Sri Lanka are frequently switching their brand preference to other competitive brands aiming to get high value and satisfaction. Today, numerous brands are offered in the mobile market and therefore it has created broad space to choose variety brands to fulfill the customer satisfaction. With this situation, evaluating customer's satisfaction is crucial for mobile phone providers to facilitate the best offering to the target market. Therefore, brand image plays a strategic role in the mobile phone market and also managers can gain competitive advantages. So, this study aims to evaluate the impact of Brand Image on determining the Customer Satisfaction in mobile phone

market giving special attention to customers in Kandy District.

2. RESEARCH PROBLEM

In the Sri Lankan mobile market, there is huge competition with growing brands. Therefore, most of the marketers are giving substantive effort on establishing the brand, and building customer satisfaction. As a result, a number of brands have introduced in the market for the purpose building long term profitable relationship as well as brand equity. The best approach to customer retention is delivering a high level of customer satisfaction that result in, strong customer loyalty. In Sri Lanka, There are more mobile phone brands walking down into the market. According to *Sri Lanka Mobile Handset Market Review, (2014)* indicates that the Sri Lanka mobile handset market recorded sales of over 0.76 million in 1Q (January-March) 2014. In the overall Sri Lankan mobile handset market divided 2 types. There are feature phone and smart phone. Both feature phone and Smart phone are several brands in the mobile market; Nokia, Micro max, E-Tel, Blackberry, Motorola, Samsung and etc. Even though, few major players dominate by capturing a significant market share. Under the category of feature phone, Nokia as the leading mobile phone vendors (26.2% of market share) in Q1-2014 compared to 23.8% market share in Q4-2013. Micro max has retained the 2nd place (18.3% of market share) while Micro max had a 21.4% market share in Q4-2013. With 11.4% of market

share E-Tel beat Samsung to claim the 3rd position in this market. But Samsung occupied 3rd spot in Q4-2013 with a 12% market share. It showed that an improvement of the position (2nd spot back) in Q3-2013. Samsung emerged as the leader in the smart phone segment with 27.7% share in 1Q-2014, followed by Huawei with 18.9%. E-Tel occupied third place with 13.9% share during the same period. According to these figures, it is obvious that mobile phone brands have faced a rigid competition at maintaining their customers' satisfaction. So this study aims to find out, "How does Brand Image influence Customer Satisfaction of the mobile phone market in Sri Lanka"

3. RESEARCH OBJECTIVES

The primary objective of the study was to analyze the impact of brand image on customer satisfaction in the mobile phone market in the Kandy district in Sri Lanka. The specific objectives were; to explain the nature and level of customer satisfaction and brand image in this market; to identify the brand image factors which influence the mobile phone customer satisfaction; to find out mostly influencing brand image factor on the mobile phone customer satisfaction; and provide recommendations to improve customer satisfaction through brand image in mobile phone market in Sri Lanka.

4. LITERATURE REVIEW

4.1 Customer Satisfaction

According to Hansenmaek and Albinsson (2004), customer satisfaction and retention become an important factor for an organization since they tend to give a big advantage for companies. Oliver (1980) reveals that consumer is formed by expectations referring to the performance or quality of a product. Thus, customer satisfaction emphasizes the degree to which customers are happy with the use of products that are provided to them by the companies. To maintain the customer satisfaction, companies must keep in mind their needs and wants and supply them outstanding products and services. So, business can move on to the upper level of advantage by achieving customer satisfaction in a competitive market. Customers make their expectation and perception about the brand by means of positive word of mouth, selling and promotion activities with market strategies. It seems a possibility to spread bad word of mouth, if any customers experienced with dissatisfaction on the product what they consumed (Ahmed, 2014). According to (Edward C. M. et al, 2003 cited in Samantaray, 2014) customer satisfaction is a key indicator of good marketing practice since customer satisfaction helps in the future success and profitability of the company. Also, Kurt Matzlara, in 2004 (cited in Samantaray, 2014) explained that, customer satisfaction as a key driver of the financial performance. It is argued that satisfaction leads to increased loyalty, reduced price elasticity, increased cross-buying, and positive word of mouth. According to Vavra (2002), customers can

obtain satisfaction from overall product, particular performance of the product, representatives of the company, various transactions like presentation of sales, delivery of products, complaints handling; and post-purchase relationships generated by a company with their Customers (cited in Neupane, 2015).

4.2 Brand Image

“A Brand defined as a term, design, name, symbol or any other features that distinguish one company's product to the others” (American Marketing Association, 2013). Brand image is a unique set of associations in the mind of customers regarding what a brand stand for and the implied promises the brand makes . According to Keller, K. (2003) cited in Horaga, Ozora, & Stiefanie,

(2012) “Brand Image is the set of beliefs, ideas and impression that a person holds regarding to an object” According to Horaga, et.al., (2012), brand Image is the interpretation of the customers about all the indications from products, services, and communication of brand. Kotler, K. (2003) cited by, Horaga, et.al., (2012), states that brand image as the customer's mind reflection of the image and trust of brands. According to Sliburyte & Bivainiene, (2008), brand image was identified as an element of brand equity. Hsiung,(2011) regarded four dimensions in measuring brand image in catering businesses, as brand value, brand characteristics and brand association. To measure brand image of cosmetics products used benefits were: functional, social, symbolic, experiential and

Table 4.1: Measurements of Brand Image

Author	Measurements
Hsiung,(2011)	Brand Value, Brand Characteristics and Brand Association
Stephen, Maznah, Nabsiah, Ishak, & Amran, (2007).	Functional, Social, Symbolic, Experiential, Appearance enhances Benefits
Fianto, (2014)	Saliency, Reputation, Familiarity and Trustworthy
Horaga, Ozora, & Stiefanie, (2012)	Strength of brand association, the favorability of brand association and the uniqueness of brand association
Ahmad & Sherwani1, (2015)	Perceived Quality, Brand Loyalty, Brand Awareness, Brand Association
Petrauskaite, (2014) (Brand equity)	Perceived Quality, Brand Loyalty, Brand Awareness, Brand Association

appearance enhances. According to Fianto (2014) regarded four indicators of measuring brand image; saliency, reputation, familiarity and trustworthy. Further, Oraga, et.al., (2012), revealed the measures of brand image through the strength of brand association, favorability of brand association and the uniqueness of brand association. When consider the brand equity; perceived quality, brand loyalty, brand awareness and brand association were identified as the measures. Petrauskaite, (2014) used four dimensions to measure brand image in footwear market which were perceived quality, brand loyalty, brand association and brand awareness.

4.3 Brand Image and Customer Satisfaction

GU, (2005) suggested that customer satisfaction and brand characteristics presented significant relationship (cited in Hsiung, 2011). Also, it found that the positive relationship between brand image and customer satisfaction (Horaga, et.al.,

2012; Neupane, 2015). Stephen, Maznah, Nabsiah, Ishak, & Amran, (2007) found four image benefits; experiential, social, functional and appearance which has significant effects on satisfaction. They discovered that symbolic benefit has a negative effect on satisfaction and loyalty. Beatty (1999) found only social and functional benefits to be positively related to satisfaction (cited by Stephen, Maznah, Nabsiah, Ishak, & Amran, 2007). Hsiung (2011) shows the requirement of modern customer-oriented marketing theory to take customer satisfaction into account when making decisions and establishing brand image. Fianto, (2014) shows poor perception of brand image on customer's preferences in making purchasing behavior. Positive brand image contributes to enhance customer loyalty and it has great roles in building a strong brand image of a company. Therefore, brand image is essential for companies to gain lifetime customer loyalty which leads to gear up organizational efficiency (Hess and Story, 2005 cited in Neupane, 2015). Malik, Ghafoor & Iqbal, (2012) found improvements in brand image resulted in increased customer satisfaction and improved brand loyalty. Yang (2002) proposed that customer satisfaction referred to the pleasant attitude when a customer

Table 4.2: Relationship between Brand Image and Customer Satisfaction

Poor	Moderate	Strong positive
Fianto, (2014)	Malik, Ghafoor2, & Iqbal(2012)	Horaga, Ozora, & Stiefanie (2012)
Stephen, Maznah, Nabsiah, Ishak, & Amran, (2007)		Hsiung (2011)
		Stephen, Maznah, Nabsiah, Ishak, & Amran, (2007)

accepting certain deal or service; and, customer satisfaction and brand value appeared notably positive relation (cited by Hsiung ,2011).The literature summarized in table 4.2,on the relationship between brand image and customer satisfaction shows there is strong positive relationship between brand image and customer satisfaction.

5. CONCEPTUAL MODEL

The four main areas were analyzed, brand awareness, brand loyalty, perceived quality and brand associations (Aaker, D. 1991; Keller, K. 2003 cited in Petrauskaite,2014), in order to understand which subdivision/s is/are most influential to create and maintain mobile phone brand images.

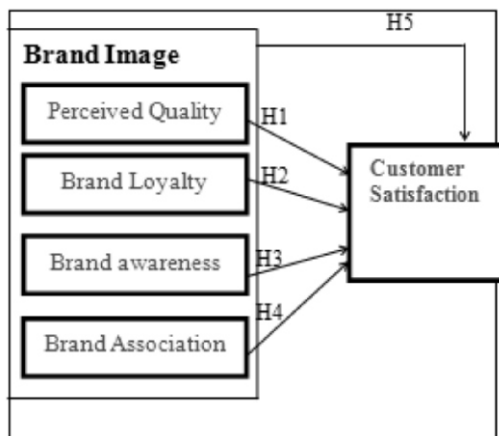


Figure 5.1 Conceptual Model

6. HYPOTHESES

H₁: There is a significant relationship between Perceived Quality and customer satisfaction.

H₂: There is a significant relationship between brand loyalty and customer satisfaction

H₃: There is a significant relationship

between brand awareness and customer satisfaction

H₄: There is a significant relationship between brand association and customer satisfaction

H₅: There is a significant relationship between brand image and customer satisfaction.

H₆: Brand loyalty is the most significant factor to determine the customer satisfaction

7. METHODOLOGY

The deductive method applied for the study because of the study conducted based on existing theories and published literature on the brand image and customer satisfaction.

The target population of this study was the population living in Kandy District 2012. According to reports of the Department of Census and Statistics in 2012, population of Kandy District was approximately 1,375,382. Among them, 110 respondents were selected as the sample representing four main cities; Katugastota, Pilima thalawa, Peradeniya, Akurana using the convenience sampling method. KMO and Bartlett's test was used to test the adequacy of sample size. Both primary and secondary data were considered for the study and secondary data such as Department of Census and Statistics reports, web sites and related journals was used in this research. Primary data which is the most important part of the study was collected via a structured questionnaire using a survey of 110 respondents. The data gathering instrument were a closed ended questionnaire. And it was distributed to the

customers within the sample. Out of 110 questionnaires that have been distributed; 100 respondents were responded and 10 questionnaires were not completed. Questionnaire was consisted of three parts. Part 01; background information, Part 02; brand Image and it checks perceived quality, brand loyalty, brand awareness, and brand association. Part 03; customer satisfaction under the measures of customer expectation, customer value, positive opinion about brand and manufacture and overall satisfaction. The questions administrated with 5- points Likert scale from 5 to 1 representing strongly agree to strongly disagree. The analysis of the data was performed applying SPSS 21 version and data was coded by using the SPSS data editor. The data gathered was analyzed with the support of descriptive statistics; (mean, standard deviation) and inferential statistics (ANOVA test, Pearson coefficient of

correlation, regression).

8 . R E S U L T S A N D DISCUSSION

According to figures indicated in table 8.1, 55 percent respondents were males and 45 percent were females which mean majority were male participants. When considering the age level, major participants were between 25-35 years old (41%), the second was 16-25 years old (37%).The highest number of participants was reported in an income range of Rs.20000- Rs.40000 (37%) the second was less than Rs.20000 (21%). Also, it was found that the majority (49%) respondents were using the Nokia brand, 18% respondents Samsung brand. Also, it is apparent that over 75 percent of customers have already used more than one mobile phone brand.

Table 8.1: Description of Respondents

Variable	Category	Frequency	Valid Present
Gender	Male	55	55
	Female	45	45
Age	16-25	37	37
	25-35	41	41
	35-45	22	22
Income	Dependent	20	20
	Less than 20000	21	21
	20000-40000	37	37
	40000-60000	19	19
	More than 60000	3	3
Education Level	O/L	32	32
	A/L	34	34
	Diploma	19	19
	Undergraduate	1	1
	Graduate	9	9
	Other	5	5

Brand	Nokia	49	49
	LG	8	8
	Sony	7	7
	Micromax	15	15
	Samsung	18	18
	Other	3	3
No of Brand used	One Brand	25	25
	Two Brand	28	28
	Three Brand	28	28
	Four Brand	12	12
	More than four	7	7

Source: Survey Data, 2015

8.1 Reliability Test

The reliability of a measure is an indication of the stability and consistency with which the instrument measures the concept and helps to assess the goodness of a measure. (Sekaran, U. 2007). Reliability results of the test are presented in table 8.2 and accordingly all the variables are accepted under the condition of Cronbach's alpha with reflect to the Sekaran (2007).

KMO and Bartlett's Test is one of measurement to check the validity of data whether the sample is adequate. The sample is adequate if the value KMO is

Table 8.2: Summary of the Reliability Measurement

Dimensions	No of items	Alpha Values
Perceived Quality	5	0.844
Brand Loyalty	4	0.889
Brand Awareness	5	0.788
Brand Association	3	0.786
Customer Satisfaction	7	0.891

Source: Survey results, 2015

greater than 0.5 (Field 2000; 466) cited by . The table 8.3 shows that KMO is 0.836 which is the sample is adequate and significant value of Bartlett's Test is 0.000.

8.2 Descriptive statistics

In this study Descriptive statistics usually involved measures of central tendency (mean) and measures of dispersion

Table 8.3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.836
Bartlett's Test of Sphericity	Approx. Chi-Square	1956.554
	Df	276
	Sig.	0

Source: Survey Data, 2015

(variance, standard deviation) etc. The table 8.4 presented mean, std. deviation and variance to describe the level of said variables.

According to the statistical figures in table 8.4, customer satisfaction showed in the

Table 8.4: Descriptive Statistics of Dimension of Brand Image and Customer Satisfaction

Dimension	Mean	Standard Deviation (SD)	Variance
Perceived Quality	3.718	0.804	0.647
Brand Loyalty	3.072	1.138	1.296
Brand Awareness	3.388	0.802	0.645
Brand Association	3.473	1.032	1.067
Customer Satisfaction	3.438	0.971	0.943

Source: Survey results, 2015

level of moderate with substantial SD. Perceived quality indicate higher level. Brand loyalty, brand awareness, and brand association are showed the level of moderate with considerable SD.

8.3 Test of Hypotheses

According to the result indicated in the table 8.5, all the dimensions of brand image have a strong positive correlation with customer satisfaction. Customer satisfaction can be increased by increasing brand image through brand awareness, and brand loyalty. According to the results indicated in the

table 8.5, all the hypotheses can be accepted.

8.4 Regression Analysis

According to the result indicated in the table 8.6, R^2 and adjusted R^2 values of 0.780 and 0.771 respectively, both indicated that there was a high degree of goodness of fit of the regression model. It means that independent variables for the test have ability to explain

Table 8.6: Model Summary

Model	R	R Square	Adjusted R Square
1	.883 ^a	0.78	0.771

a. Predictors (constant), BA, PQ, BL, BW

Source: Survey results, 2015

Table 8.5: Summary result of hypotheses

Hypothesis	Statement	Pearson Correlations	Sig. (2-tailed)
H1	There is a positive relationship between perceived quality and customer satisfaction.	.607**	.000
H2	There is a positive relationship between brand loyalty and customer satisfaction	.734**	.000
H3	There is a positive relationship between brand awareness and customer satisfaction	.845**	.000
H4	There is a positive relationship between brand association and customer satisfaction	.702**	.000
H5	There is a positive relationship between overall brand image and customer satisfaction	.859**	.000

Source: Survey results, 2015

78percent variation of the dependent variable.

customer satisfaction because standardized coefficient of beta was 0.593 and significant

Table 8.7: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	72.85	4	18.213	84.204	.000 ^b
	Residual	20.548	95	0.216		
	Total	93.398	99			

a. Dependent Variable: CS

b. Predictors: (Constant), BA, PQ, BL, BW

Source: Survey results, 2015

The F test was 84.204with the significance ('Sig') of 0.000. This meant that the Probability of these results occurred by chance was less than 0.05. Therefore, a significant relationship was presented between brand image and customer satisfaction.

8.6 Multiple Linear Regressions

The data in table 8.8 shows that the regression coefficient for brand awareness and brand association are all statistically significant. Additionally, found that brand awareness has the greatest impact on the

value was 0.000($p < 0.05$).The data also indicates that brand association is the second most important element driving customer satisfaction ($B = 0.283$).Thus both of H_3 , H_4 hypotheses are accepted. Perceived quality is not showed an impact on customer satisfaction because the coefficient of beta was 0.000 with larger significant value 0.995. Therefore, perceived quality of mobile phones was not impact to determine the customer satisfaction. According to the results, H_6 is rejected (brand loyalty is the most significant factor to determine the

Table 8.8: Multiple Regression results of factors affecting to Customer Satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.203	0.241		-0.841	0.402
	PQ	0	0.085	0.00	-0.006	0.995
	BL	0.094	0.066	0.11	1.414	0.161
	BW	0.717	0.113	0.593	6.342	0.000
	BA	0.266	0.059	0.283	4.510	0.000

a. Dependent Variable: CS

Source: Survey results, 2015

customer satisfaction), because the most significant variable was brand awareness (Beta= 0.593 with sig 0.000)

9. CONCLUSION

Main objectives of this study were to find out the level of customer satisfaction of mobile phones in Sri Lanka and analyze its relationship with the factors of brand image. As per the results, it shown the level of customer satisfaction is in the moderate level. This conclusion is supported by previous literature Karunarathna & Nismi, (2011). Perceived quality, brand loyalty, brand awareness, and brand association are also positively related to customer satisfaction. There was a strong positive relationship between brand loyalty and customer satisfaction. This means that the brand loyalty and customer satisfaction are precisely related. According to Yoo, (2000) brand loyalty has the power to impact on customer decision to purchase the same product or brand and decline to shift to competitors' brands (cited in Ahmad & Sherwani1, 2015). Brand awareness and customer satisfaction were two variables that had strong positive relationship. This means that the two variables are precisely related and that, as value of one variable was increased. This conclusion is supported by Bilal & Malik, (2014). There is positive relationship between perceived quality and customer satisfaction in mobile phones. It was proved by Kumar, (2014). Strong positive relationship existed between Brand Association and customer satisfaction. This

conclusion is also supported by previous literature as Kumar, (2014) found positive relationship between brand association and customer satisfaction. The most significant brand image factor affect to the customer satisfaction of mobile phone market was brand awareness and brand loyalty. Because of awareness has a high correlation value with less than 0.05 significant levels when compare the other independent variables. Ultimately as a whole on the statistics, customer satisfaction can be increased by increasing brand image on brand awareness, and brand loyalty in the mobile phone market in Sri Lanka.

Same time, the research findings reveals marketing managers should concentrate their effort primarily on brand loyalty as an construct of brand image because it can contribute positively to the firms market. Also, in the highly competitive mobile handset industry, they should work to retain consumer loyalty and gain repeated business. Brand loyalty has several important strategic benefits to the firms, such as gaining high market share and new customers, supporting brand extensions, reducing marketing costs, and strengthening brand to the competitive threats. Further, as per the research results brand awareness, contributing moderately to build the brand image. So, brand image could be changed for the better by successful advertising and introducing simple logo or symbol to identify customers easily their preferred brand. This would suggest that Mobile

phone products ought to pay attention to their advertising in the future and think about whom their target group for each advertisement is and this could also affect customer satisfaction.

10. LIMITATIONS AND FURTHER RESEARCH AREAS

The research study to measure brand image and customer satisfaction in the mobile handset market is limited to Kandy District only, so there is a scope to study brand image and customer satisfaction of other regional markets of Sri Lanka to avoid the significant regional gaps. Furthermore, the restriction of using convenience sampling techniques has indicated that the outcomes of this research cannot be generalized. There were some potential limitations of the study happened on the way. In this research the sample was reduce to 100 and selected few brand of the mobile phone branded in market. This research is limited to one city of Sri Lanka and could not be demonstrative of all citizens of Sri Lanka and also it limited small sample size. The follow up researches may increase the sample size and collect data from various locations of Sri Lanka. This study mainly focused on the brand image in the mobile market with customer satisfaction. Therefore, other researchers can apply these variables to various consumer products in the market.

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EXAMINE THE RELATIONSHIP BETWEEN ORGANIZATIONAL FACTORS AND EMPLOYEE TURNOVER IN APPAREL INDUSTRY IN SRI LANKA

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ABSTRACT

The intimation of “employee turnover” is a substantial metric which is bound with human resource management in organizations. Therefore interest occurred to examine the relationship between organizational factors and employee turnover in apparel industry in Sri Lanka with boosting turnover among apparel employees. The questionnaire was administrated to gather data from conveniently selected sample of 50 operational level employees (already left out from their job) in two apparel companies in Galle District. Four organizational factors such as compensation practices, supervisory support, health & safety practices, and working environment were examined. The data analysis included the univariate, bivariate and multivariate analysis. Univariate analysis presented basic nature of research variables, Bivariate analysis used to identify the significant relationship between dependent variable with each independent variables and Multivariate analysis used to examine the overall fitness of the model. Bivariate and multivariate analysis used to test four hypotheses developed for the study. Results revealed that organizational factors negatively influence towards employee turnover. . Impact of demographics on employee turnover of the respondents was analyzed using T-test analysis and One Way Anova. Therefore researcher concluded demographic factors were not significantly influence to employee turnover.

Key words: Compensation practice, Supervisory support, Health & safety practice, Working environment, Employee turnover

1. INTRODUCTION

The contemporary business world is so complex and dynamic in nature. Therefore organizations which are operating within the

business world are making a great effort to secure the competitive advantage over its rivals. It can be categorized three basic types of resources which aid to gain competitive

advantage as physical capital resources, organizational capital resources and human capital resources. Especially the organization's employees are its most valuable resource . Because it is a critical resource which determines the achievement of long term and short term goals of an organization. Therefore Human Resource Management is a must in achieving expected outcomes and desired goals. The generic purpose of Human Resource Management is to generates and retain appropriate workforce .

Apparel industry plays an important role in the Sri Lankan economy as the largest foreign income source over the last three decades. Since 1986, textile & garment continue to maintain their position as the Sri Lankan largest single item of exports. Apparel exports in Sri Lanka have recorded an increase 9.26% in the year of 2014. Also the country is well geared to position itself as a commercial hub and the apparel sector is keen on getting into the global supply chain as well..

Employee turnover is always a major problem which faced by the managers in the apparel industry. There is a big competition between organizations to grab the potential workforce into their organizations. Also many firms are facing a shortage of direct labor as there is high labor turnover in the industry .

The term “employee turnover” can be defined as the rotation of workers around the
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labor market; between firms, jobs and occupations and between states of employment and unemployment .

2. STATEMENT OF THE PROBLEM

Employee turnover is a major problem in apparel industry when they competing with other rival countries. Apparel industry has a vital place in Sri Lanka's economy . It has become Sri Lanka's largest export industry. Although it is the backbone of Sri Lanka's economy, major problem the apparel industry facing nowadays is the problem of developing and maintaining manpower. The average labor turnover worked per factory is about 60 percent per annum Taking the labor migration into account the number of persons leaving the industry each year is estimated at 25 percent. Therefore there is high probability to quit the industry.

Most of the researchers have been identified and examined the employee turnover in the apparel industry in the literature. Because of high turnover rate of employment will cause to lots of negative impacts to the organization such as decreases of the organizational productivity, profitability and customer satisfaction as well as increase employment costs and so on . High level of turnover negatively affects the business unit performance. Also employee turnover is a huge problem for many companies in several Asian countries such as Hong Kong, South Korea, Malaysia, Singapore, Taiwan and Sri Lanka.

Also most of the scholars argued that employee turnover in the apparel industry are more costly. Because for the hiring, induction, training and development of new employees. Also, the cost incurred for the training of who left out the organization. Also some scholars identified that turnover bring some beneficial to the organization. Because organizations can get the advantage of new bloods and new employees work with higher motivation etc. In this regard some scholars arguing about benefits of employee turnover while some of others are talking about negative consequences of it.

Joint Apparel Association Forum- Secretary General M.P.T Cooray speaking to Daily News Business said that apparel industry is expecting to achieve US\$8.5 billion apparel exports by 2020, industry needs to record 12 percent growth rate year on year to achieve this target as well as when achieving this goal definitely employee turnover rate may boosts up within the industry.

Actually this problem is very significant and interesting for the organizations as well as for the researchers because it is costly, serious and vital . Therefore this study examined the relationship between organizational factors and employee turnover in apparel industry in Galle District.

3. SIGNIFICANCE OF THE STUDY

Human resource managers in apparel industry always have to pay a great attention

regarding employee turnover within their organization. Among the various factors that affecting to employee turnover, organizational factors highly impact on employee turnover of operational level employees.

The major challenge of the organizations is to identify the factors which caused to employee turnover and to implement necessary actions to retain existing employees. When there is a high employee turnover within the organization, it needs to carry out continuous recruitment, selection, hiring, training and development functions which consume much time, energy and cost. Even though the company can enjoy with new bloods through new recruitment they must care about to retain existing competent and skilled employees. That will be more cost effective and more beneficial to achieve organizational goals and objectives efficiently and effectively. Generally, all costs related to the leaving and replacement of employees can be considered to be costs of employee turnover.

Operational level employees are the employee category which has a high level of turnover in almost all garments manufacturing organizations . And also it is important to identify the factors that affect to employee turnover. Organizational factors play a vital role in determining employee turnover. When organizations are not stable employees tend to quit and look for stable organizations . Also pay and pay related

variables have a moderate impact on turnover . Health& safety practices are important determinants of employee turnover . Also supervisory styles play a significant role in shaping up the employee turnover . As well as toxic workplace environment may lead towards the employee leave their organization .

Therefore this study mainly focuses on the employee turnover of the operational level employees and to find the effects of organizational factors on employee turnover.

4. RESEARCH FRAMEWORK

Employee turnover is the process of which employees leave the organization and have to be replaced . Most of the studies revealed that instability of the organization has been shown to have a high degree of turnover. Because of the employees are more likely to stay when there is a predictable work environment . Also employee turnover is the rate of movement of employees in and out of an organization .

Organizational factors refers to organizational policies and practices such as opportunities for growth, supportive management, supportive HR policies, organizational culture and other factors . Higher turnover in an organization occurred as a result of management of an organization . High employee turnover may results because of poor personnel policies, poor recruitment policies, poor supervisory

practices, poor grievance procedures, or lack of motivation.

Compensation practice can be considered as all the extrinsic rewards that can be receive such as salaries, any incentives, or bonuses and other benefits . And extrinsic rewards may be monitory and non monitory rewards which are tangible . Employees are more tend to leave their organization when the organization provides low salaries . Also salary level has a considerable effect on employees' commitment towards the organization and it has a significant impact on employees' turnover.

Also non-managerial employees turnover adversely related with the compensation practice . Employees with high salaries are less likely to quit their job and their organizational commitment also high . Also lack of satisfaction with salary associated with turnover . There is an adverse relationship between high rewards and employee turnover . Therefore researcher hypothesized as,

Hypothesis 1- There is a negative relationship between compensation practices and employee turnover in apparel industry in Galle District.

Supportive supervisors care about employees' career goals, give credits for work an employee done and help employees to develop job-relevant skills and competencies .Also number of studies found moderate support for an adverse relationship

between supervision and turnover . There is a significant relationship between supervisory behavior and employee turnover .

If there are high supervisory support employee think they are appreciated or valued by the organization . Hertzberg (1996) theory also explains that strict employee supervision caused to dissatisfy, de-motivate and then tend to leave the organization . Also good supervisory support helps to develop skills and they are more likely to retain with the organization . Therefore researcher hypothesized as,

Hypothesis 2- There is a negative relationship between supervisory support and employee turnover in apparel industry in Galle District.

Health & safety practice can be considered as quality mental and physical health and safety conditions provided by the organization . Also significant adverse relationship was found between employee health & safety practice and turnover . From the multivariate analysis, it was pointed out that the health & safety practices show a moderate relationship with the employee turnover .Therefore good health & safety practices are important to reduce the turnover . Employee's mental and physical health impact on stress and it will adversely impact on turnover . Therefore researcher hypothesized as,

Hypothesis 3- There is a negative relationship between health & safety practices and employee turnover in apparel industry in Galle District

Working environment can be defined as the physical geographic location which provided by organization for their employees . Features such as temperature, lighting, noise and ventilation should be considered in any working environment .Many scholars argued that work environment as a key factor when determining employee turnover in any organizations .

Also there is a negative relationship between working conditions and voluntary turnover . As well as toxic workplace environment may lead towards the employee leave their organization . Therefore researcher hypothesized as,

Hypothesis 4 – There is a negative relationship between working environment and employee turnover in apparel industry in Galle District

According empirical evidences explained in the literature review researcher identified employee turnover as the dependent variable and the organizational factors as

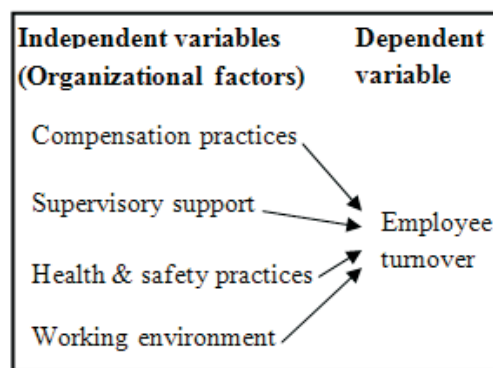


Figure 4.1: Theoretical framework

Source: Developed by the researcher

independent variables. Further researcher identified age, gender; marital status and educational level have a significant relationship with employee turnover. Also compensation practice, supervisory support and health & safety practice and working environment negatively impact on employee turnover.

By considering these relationships between research variables researcher proposed the following theoretical framework for the purpose of this study.

Researcher conducted this study in order to demonstrate the relationship between employee turnover and organizational factors as a correlational study.

And this study was relates with the non-contrived settings because this study was conducted in a natural environment in an apparel industry where work proceeds normally. The researcher examined the impact of organizational factors on employee turnover and researcher obtained the responses from each individual employee and treated these responses as an individual. Hence the unit of analysis of this study was an “individual employee”.

The populations of this study compromised with all left out employees within past five years from Rasuki Apparel (Pvt) Ltd and Pinnaduwa Apparel (Pvt) Ltd in Galle (approximately 800 employees). The sample for this study was initially derived by conveniently selected 50 left out operational

level employees from Rasuki Apparel (Pvt) Ltd and Pinnaduwa Apparel (Pvt) Ltd in Galle. And they are currently occupying in other apparel companies in Galle District.

And researcher used non-probability sampling techniques and conveniently selected the sample for the study. Research instruments were reliable with measurement items having a Cronbach alpha value above 0.7. Measurement model comprised of 38 items. Here 22 items used to measure organizational factors and 05 items used to measure the employee turnover with the five-point Likert Scale. And other 11 number of items used to measure demographic variables.

When considering the 50 respondents, majority of them were female (54%). As well as majority of the respondents were married (58%). And majority of them appeared in the age category of 25-34 (54%).

5. MEASURES

A questionnaire was used to measure the variables. The questionnaire was separated in to three sections demographic variables, organizational variables and employee turnover (See appendix 01). The five point Lickert scale used in the questionnaire except for the demographic variables. The degree of agreement or disagreement of the respondents for each questions ranged from strongly disagree to strongly agree with the assign value of 1 to 5 respectively for the positive statements.

Table 5.1: Measuring the organizational factors

Compensation practice	Basic salary	11		Outfits	27
	Fair salary	12		Compensate for any hazard	28
	Salary increases	13	Working environment	Healthy and independent working environment	29
	Additional bonuses	14		Tools and equipment	30
	Over time payments	15		Team work	31
	seasonal benefits	16		Information availability	32
	Advances and loans	17			
Supervisory support	Feedback	18			
	Career development	19			
	Caring	20			
	Appreciation	21			
	Decision making	22			
	Instructions	23			
Health & Safety	Hazards	24			
	Immediate treatments	25			
	Compensate for hazard occurred at work place	26			

Source: Developed by the researcher

Table 5.2: Measuring the employee turnover

Dimension	Indicators	Q. No.
job satisfaction	Low job satisfaction	33
Job stress	Mental stress	34
Knowledge and skills	Mismatch between job and the knowledge and skills	35
Job alternatives	Availability of jobs with better benefits in job market	36
Work life balance	Unbalance between work and family life	37

Source: Developed by the researcher

Researcher used 22 measurement items for the independent variables (See Table 5.1) and 05 measurement items for the dependent variable (See Table 5.2).

6. Validity And Reliability

Researcher have been used dimensions such as compensation practices, health & safety practices, supervisory support and working environment to measure the concept of organizational factors. As well as researcher have been used relevant elements for each dimension. As well as researcher developed questionnaire by adopting and modifying questions from previous researches conducted by scholars for each dimensions ,

Cronbach coefficient alpha for each factor was as follows and alphas range from .700 to .839. That means each item is correlated with other item across the entire sample and the internal consistency was satisfied.

Table 6.1: Results of Reliability Analysis

Variable	Alpha Value	No of items
Employee turnover	.754	5
Compensation practice	.788	7
Supervisory support	.839	6
Health & Safety practice	.700	5
Working Environment	.811	4

Source: Developed by the researcher

7. Results

7.1 Univariate Analysis

This section focused to identify the basic nature of research variables using descriptive statistics such as mean and standard deviation. Descriptive statistics were obtained to transform raw data into an easily understandable form for the interval scale independent and dependent variables as shown in the Table 7.1 because descriptive statistics are the vital and famous step for analyze the data.

According to the above table mean values and the standard deviation for employee turnover and other independent variables are very high. Especially mean values are higher than 3. It indicates that the employee's attitudes toward the turnover are relatively high.

And their attitudes toward the compensation practice, supervisory support, health and safety, and working environment is very bad. Because of the employees were highly dissatisfied with their working conditions within the organization. It is most reasonable because of the researcher derived the sample from who are the employees already left out their job. As well as questionnaires used to collect data for the study consisted with many positive questions relating to compensation practice ,supervisory support, health & safety practice and working environment and only few number of negative questions used to measure the employee turnover.

Table 7.1: Descriptive statistics results

Variables	Mean	SD
Independent		
Compensation practice	1.4243	.21117
Supervisory support	1.2783	.25316
Health & safety	1.5589	.21485
Working environment	1.4352	.24378
Dependent	Mean	SD
Employee turnover	4.2143	.56164

Source: Developed by the researcher

7.2 Bivariate Analysis

Based on the correlation results the researcher can be arrived at a conclusion that there is a negative relationship between employee turnover and compensation practices ($r=-0.145$). Also supervisory support have negative relationship with employee turnover ($r=-0.258$). But these relationships are not significant at 0.01 levels (1-tailed). However correlation results of the study have been shown significant negative relationship (-0.735) between employee turnover and health & safety practices as well as with the working environment (-0.450) of the organization. Because of the P values (Sig. values) for health & safety practices and the working environment are 0 .000 and 0.001 respectively. Therefore negative relationship between employee turnover and health & safety practices as well as with the working environment were significant at the 0.01 level (1-tailed).

According to results obtained in the Table 7.2 H_3 and H_4 can be accepted. Because of these correlations are significant.

Table 7.2: Results of Correlation Analysis

Hypotheses	Independent Variable	r	p
H_1	Compensation practice	-.145	.315
H_2	Supervisory support	-.258	.071
H_3	Health & Safety	-.735	.000
H_4	Working Environment	-.450	.001

Source: Developed by the researcher

7.3 Multi Variate Analysis

According to results obtained through the multiple regressions, selected independent variables explained 58% variation of the dependent variable. And remaining 42% explains by the other factors. Because of there are additional variables that are important in explaining employee turnover that have not been considered in this study. As well as researcher can be concluded that the overall model developed by the researcher for this study was significant ($P=0.000$).

Researcher considered unstandardized coefficients to examine the significance of each individual coefficient because all independent variables are measured using five point lickert scale.

According to the beta values obtained in the regression analysis results researcher can be concluded that there is a negative relationship between all organizational factors and employee turnover. Even though all beta values have shown as negative, only

H1 and H3 can be accepted (because of the sig values were .022 and .000 respectively)

Table 7.3: Results of regression analysis:

Adj. R ² =.585	F-Value=18.276		Sig=.000
Model	Unstandardized Coefficients		
	B	Std.Err or	Sig.
(Constant)	1.068	.593	.079
Compensation Practice	-.157	.066	.022
Supervisory Support	-.129	.084	.133
Health and Safety	-.649	.108	.000
Working Environment	-.131	.080	.107
Dependent Variable: Employee Turnover			

Source: Developed by the researcher

Overall model

Especially when considering the results obtained through both bivariate and multivariate analysis, it has provided different results. Because of that there exists multicollinearity among independent variables. Therefore it needs to calculate Variation Inflation Factor (VIF) to minimize

these defects. But researcher did not test the multicollinearity in the present study. Therefore relationship between compensation practices and health & safety practices with employee turnover was insignificant in the results obtained through multivariate analysis.

8. DISCUSSION

This study aimed to investigate the relationship between organizational factors and employee turnover in the context of the Apparel industry in Sri Lanka. And the study was compromised with sample of 50 respondents and majority of them were female (54%). As well as majority of the respondents were married (58%). And majority of them appeared in the age category of 25-34 (54%).

Researcher analyzed four dimensions to identify the relationship between organizational factors and employee turnover. Such as compensation practices, health & safety practices, supervisory support and working environment.

After analysis the results researcher identified that all four dimensions have a negative relationship with the employee turnover. As well as bivariate analysis results shown that health & safety practices and working environment are significant to determine the employee turnover. Because the r value for these two variables were negative ($r = -.735$, $r = -.450$ respectively). Even though managers perceived that good

compensation practice will be aid to reduce employee turnover, it does not necessarily result in a reduction in their decision to quit. Also this significant adverse relationship for health & safety practices and employee turnover was supported by the results provided by the Sujeewa, 2011. As well as several scholars such as Mowday, Koberg, & McArthur, 1982 have been found a negative relationship between working conditions and employee turnover and supported with the results of the study.

From the multivariate analysis researcher identified significant negative relationship between compensation practices and employee turnover as well as health & safety practices and employee turnover. Though it is, Sujeewa, 2011 was pointed out that the health & safety practices show a moderate relationship with the employee turnover. Several studies found that strong negative relationship between compensation packages and employee turnover. Also according to Haines, Jalette, & Larose, (2010) sound growth of wages or compensation package significantly reduces the employee turnover. Therefore these evidences were supported with the results of this research study.

Through the both bivarait and multivariate analysis researcher identified that there is a negative relationship between supervisory support and employee turnover but it was not significant relationship. But number of studies found moderate support for an

Table 7.4: Results of One Way ANOVA and T-test analysis

Demographic Variable	F Value	Sig. Value
Job title	.126	.944
Age	1.006	.373
Education qualifications	.087	.769
Work experience	.537	.747
	T Value	Sig. Value
Marital status	.424	.088
Gender	.035	.989

Source: Developed by the researcher

adverse relationship between supervision and turnover .

Further researcher analyzed how demographics of the respondents have been influenced to employee turnover. Through the literature researcher identified age, gender; marital status and educational level have a significant relationship with employee turnover. But through the study researcher identified that these demographics have not been shown any significant relationship with employee turnover. Results presented in the Table 7.4 have been shown that any demographic factors were not significant ($P > 0.05$).

8. CONCLUSIONS

The researcher intended to examine the impact of organizational factors on employee turnover in apparel industry. Compensation practices, supervisory support, health & safety practices and working environment considered as the

organizational factors for this study. Then the research was designed and four hypotheses were formulated accordingly. And researcher used a questionnaire to collect data from operational level employees who left out in apparel industry in Galle district.

Also negative relationship between organizational factors and employee turnover were found. But the relationship between health and safety and employee turnover as well as working environment and employee turnover were significant under the correlation results. And 58% variation explained the dependent variable by the selected independent variables for the study. Overall model developed for the study was significant ($P=0.000$). Further researcher revealed that any demographic factors were not significantly influence on employee turnover.

9. RECOMMENDATIONS

Organizations should properly maintain the human resource within the organization and should offer sufficient salaries and wages, bonuses, overtime payments etc. As well as supervisor behaviour should be observed properly and unnecessary behavior should be eliminated. Because of the production supervisors are always trying to achieve timely production targets while keeping an unnecessary stress towards their employees. Also, organizations should maintain well organized health and safety practices as well as should offer completed work environment for their employees. Not only is that it very

important to installing day care, child care centers within the premises or nearby area.

Further researchers should consider other important organizational factors which influence on employee turnover. Also they should direct to other districts of the country. As well as they can draw their sample more than the sample of the current study. And it is very important to measure the Variance Inflation Factor (VIF) to minimize the multicollinearity defects among research variables.

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IMPACT OF STUDENTS' PERCEIVED QUALITY OF DISTANCE EDUCATION ON STUDENT SATISFACTION WITH SPECIAL REFERENCE TO UNDERGRADUATE STUDENTS OF BACHELOR OF MANAGEMENT STUDIES DEGREE PROGRAMME, THE OPEN UNIVERSITY OF SRI LANKA

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ABSTRACT

Distance education becomes more accepted as a legitimate form of education and as colleges and universities attempt to meet the growing demand for courses and programmes for distance learners, one major concern that attracts the attention is the aspect of quality. The primary issue for distance learning institutions, like for conventional ones, is quality and the assurance that students are being provided with the best possible education or training with the highest possible standards. Purpose of this study was to analyze the construct of quality as perceived by distance learners of Bachelor of Management Studies program at the Open University of Sri Lanka and the influence of this perception on the students' satisfaction. The study focused on identifying students perceptions of key dimensions that define the construct of quality from students' perspective. A questionnaire was used as the key tool of data collection. Descriptive and correlational statistics were the main tools used in the study. Results of the study clearly indicated that all dimensions except perception on quality of faculty were significantly correlated with students' satisfaction. The study conclude that institutions are required to pay attention to factors such as quality of pedagogy, learner support, technological and even infrastructure as measure of meeting students' quality expectations.

Key Words: Distance Education, Perceived Quality, Student Satisfaction

1. INTRODUCTION

Open and Distance Education (ODE) system has been gaining widespread popularity over the years, and the advancement in technology has led the emergence of distance education as an alternative to conventional mode of teaching and learning. Distance Education (DE) is planned learning that normally occurs in a different place

from teaching and as a result requires special techniques of course design, special instructional techniques, special method of communication by electronics and other technology, as well as special organizational and administrative arrangements (Moore & Kearsley, 2005).

The distance education mode was adopted

by many universities to meet the ever-growing demand of those students who lacked means to pursue higher education through the regular stream.

Accordingly, one of the key discussions that have attracted interest is the quality and quality assurance in Distance education courses. Even though quality in distance education has largely and often been studied from national and institutional administrative and faculty stand points very few studies have analysed quality in DE from the learners' perspectives.

1.2 Background of the Study

During the last few decades, Distance Education (DE) has progressed very rapidly in the developed and some developing countries (e.g. UK, Turkey, Thailand, India, Pakistan and Sri Lanka). The Open Universities of these countries provide academic and instructional supports to the learners with the means of being able to communicate through voice, video and data, in real time, with tutors using modern ICTs and participating in face-to-face tutorial sessions. (Jahan, Habib, & Akhtar, 2012)

When it comes to the education system in Sri Lanka it offers several options for secondary school graduates. University Education is organized under the University Grants Commission (UGC) and mainly consists of two types of universities, state universities and private universities/institutes. State universities offer undergraduate degree

programmes in the form of Internal (on-campus) full-time and External (distance learning) full-time or part-time. The OUSL degrees and external degrees (ED) are the two types of DE offered by state Universities

The term 'distance learning', as used in Sri Lanka, referred to two modes of education where the teacher and the students are separated by time and space at least for part of the duration of a course: at the very beginning, it meant a course of study totally delivered through correspondence; in more recent times, and mix of paper-based face-to-face instruction supplemented by self-access work by the students.

1.3. Problem Identification

As distance education becomes more accepted as a legitimate form of education and as colleges and universities attempt to meet the growing demand for courses and programmes for distance learners, one major concern is the aspect of quality. According to Dharanajan (2002), the primary issue for distance learning institutions, like for conventional ones, is quality and the assurance that students are being provided with the best possible education or training with the highest possible standards.

One of the key discussions that have attracted interest is the quality and quality assurance in Distance education courses. Even though quality in distance education has largely and often been studied from national and institutional administrative and

faculty stand points very few studies have analysed quality in DE from the learners' perspectives.

Accordingly, a research conducted by Sumaedi, Bakti, & Metasar ,(2011) on the Effect of Students' Perceived Service Quality and Perceived Price on Student Satisfaction, found that student perceived quality has a positive significant effect toward student satisfaction. Further it implies, any increase in student perceived quality will result in an increase of student satisfaction.

In addition to that another study conducted by Mbwesa (2014), on “Students' Perceived Quality of Distance Education Courses as a Correlate of Learner Satisfaction: A Case Study of the Bachelor of Education Arts Program, University of Nairobi, Kenya” clearly indicated that the theory predictor variables Students' Perception of the quality of Pedagogy (SPQP), Students' Perception on the Quality of Infrastructure (SPQI), Students Perception on the Institutional Credibility(SPQC) , and Students' Perception on the Quality of Evaluation (SPQE) were all positively correlated with perceived students satisfaction with the DE course. According to that study, learners particularly seemed to value fair and clear learning assessment guidelines and periodic students' evaluation of teaching and learning. The study points to the conclusion that institutions must pay attention to factors such as quality of pedagogy, learner support, technological and even physical

infrastructure as a measure of meeting students'quality expectations.

According to Arbaugh , 2000 as cited in Alavi, Wheeler, & Valacich, 1995; Alavi et al., 1997; Warkentin, Sayeed, & Hightower, 1997. Similarly, student satisfaction with related to distance education draws major attention of researches where previous studies indicate that there is significant influence of studnets' perception of quality influence student satisfaction. Some studies emphasized that, Student satisfaction has become a very important strategic issue for universities offering distance learning.

Therefore, the present study intends to identify the impact of students' perceived quality of distance education on student satisfaction: with special reference to undergraduate students of Bachelor of Management Studies Degree Programme conducted by the department of Management studies, The Open University of Sri Lanka (OUSL).

The main issue which is going to be addressed in this research is how the perceived quality of Distance Education influences on Student Satisfaction.

Therefore Purpose of the study is to analyse the construct of quality as perceived by distance learners enrolled for a Bachelor of Management Studies program at the OUSL and the influence of this perception on the students' satisfaction with the DE course. In

Particular, the analysis focused on identifying students' perceptions of different dimensions that define the construct of quality in DE from their perspective and how this influences students' satisfaction.

1.4 Objectives of the Study

The main objective of the study is to identify the impact of Student's perceived quality of Distance Education influences on Student Satisfaction.

1.4.1 Specific Objectives

To identify the level of Student Satisfaction regarding the course

To identify the level of Students' perceived quality of Distance Education

To analyze the relationship between Students 'perceived quality of Distance Education on Student Satisfaction.

To provide suggestions for increasing student satisfaction which is backed by high level of perceived quality

1.5 Research Questions

Accordingly following research questions were address in the study.

What is the level of Student Satisfaction regarding the course?

What is the level of perceived quality regarding the course?

Is there any relationship between Students 'perceived quality of Distance Education on Student Satisfaction?

To what extent does students perception of the quality of DE course influence students' satisfaction?

1.6 Significance of the Study

One of the major importances of the study is the understanding of how students perceive quality in distance education will help course designers to further enhance the quality of the programme and for similar programmes by clearly understanding their intentions. And how they perceive different aspects of quality is important in further enhancing the quality of the course.

Furthermore identifying the level of satisfaction regarding the course is vital to further enhancement and to maintain students' satisfactorily. Because according to the findings of the study it would reveal their level of satisfaction which will help to retain and attract students for the course. And the recommendations are important in maintaining/improving the satisfaction level of the student.

In addition to that, as there are few studied conducted in the perspective of students' with regard to how they perceive quality, this study might be helpful to fill the gap exists in the research area.

2. LITERATURE REVIEW

A research conducted by Sumaedi, Bakti, and Metasar , (2011) on the Effect of Students' Perceived Service Quality and Perceived Price on Student Satisfaction, found that student perceived quality has a positive significant effect toward student satisfaction. Further it implies, any increase in student perceived quality will result in an increase of student satisfaction.

According to Mbwesa, (2014) institutions must pay attention to factors such as quality of pedagogy, learner support technological and even physical infrastructure as a measure of meeting students 'quality expectations

3. METHODOLOGY

The methodology applied in this study is the deductive approach.

The main objective of the study was to identify the impact of Student's perceived quality of Distance Education on Student Satisfaction. In addition to that the study aimed to identify the level of student satisfaction regarding the course and the level of Students' perceived quality of Distance Education and the relationship between Students 'perceived quality of Distance Education on Student Satisfaction

3.1 Population and Sample

Population of the study consists of 2030 students who've registered for the Bachelor of management Studies (BMS)

Degree programme at OUSL. The sample of the study consists of 300 students randomly selected from the population. Simple random sampling technique was used in selecting the sample from the population.

3.2 Reliability Test

Cronbach's Alpha test was used to test the internal consistency of the instruments. Test results indicated that, the alpha coefficients of all variables are above 0.7 which was

considered that the items have relatively high internal consistency.

3.3 Conceptual Framework

The conceptual model adopted in this study was highly influenced by the ideas of Jung 2011 who studied Asian learners' perceptions about the quality of DE and examined gender differences in such perceptions. Basing ideas from Asian countries' QA systems for DE, Jung developed 10 categories model that defined different dimensions of quality as perceived by the distance learner. Based on the model developed by Jung, 2011, another researcher has developed six dimensional framework to study Students 'Perceived Quality of Distance Education Courses as a Correlate of Learner Satisfaction, which composed six dimensional model which includes following.

- Perception of the Quality of Pedagogy (SPQP)
- Perception on Learner Support Quality (SPQL)
- Perception of the quality of Faculty (SPQF)
- Perception on the Quality of Infrastructure (SPQI)
- Perception on the Institutional Credibility (SPQC)
- Perception on the Quality of Evaluation (SPQE)

Accordingly, researcher has adopted the conceptual framework developed by Mbwesa, (2014) in carrying out the present study. Figure 3.1 depicts the Conceptual Framework of the study



Source: Mbwesa, (2014)

Figure 3.1 Conceptual Framework

3.4 Working Definitions of variables

Perception of the Quality of Pedagogy

SPQP Refers to policies and guidelines that help ensure and maintain the quality of course development processes, materials, and resources, and the course content's adaptability to learners Jung, (2012).

Perception on Quality of Learner support

SPQL Refers to the policy and guidelines for technical, financial, psychological, social, and administrative support, flexible payment, and appeal mechanisms Jung, (2012).

Perception of the Quality of Faculty

SPQF Refers to policies and procedures for training support during course development and delivery and faculty welfare. Jung, (2012).

Perception on the Quality of Infrastructure

SPQI Refers to the policies and measures, which ensure the reliability and security of

technology systems as well as the provision of physical spaces. Jung, (2012).

Perception on Institutional credibility

SPQC Refers to the status of acquiring both national and international accreditations, showing strong leadership, and guaranteeing member qualifications that promote a DE institution's public credibility Jung, (2012).

Perception on Quality of Evaluation

SPQE Refers to activities and policies concerned with students' learning assessment feedback as well as various stakeholder evaluations. Jung, (2012)

Student Satisfaction (SS)

Student satisfaction is a short-term attitude, derived from the evaluation of the received education service. Elliot and Healy (2001)

3.5Hypotheses Development

According to the study framework, developed the following hypotheses were constructed which will be tested in the study.

Hypothesis 1: Relationship between perceptions on the quality of pedagogy and student satisfaction

Hypothesis 2: Relationship between perception on quality of learner support and student satisfaction.

Hypothesis 3: Relationship between perception on the quality of faculty and student satisfaction

Hypothesis 4: Relationship between perception on the quality of infrastructure and student satisfaction

Hypothesis 5: Relationship between perceptions on the Institutional Credibility and student satisfaction

Hypothesis 6: Relationship between perceptions on the quality of evaluation and student satisfaction

4. DATA ANALYSIS

Data were analyzed using descriptive statistics and inferential statistics. Mean value of the responses and frequency distribution was used to assess the level of student satisfaction and the level of Students' perceived quality.

Correlation analysis was used in analyzing the relationship between variables. And regression analysis was used to identify the impact of Student's perceived quality of Distance Education on Student Satisfaction.

In order to obtain data for the analysis, developed questionnaire was distributed to the sample of 300 undergraduate students of BMS Degree programme. However, only 242 respondents submitted the questionnaire back. Accordingly the response rate is 80.66%.

5. FINDINGS

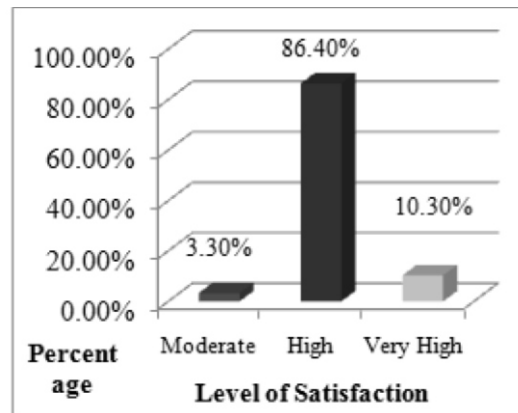
To identify the level of student satisfaction mean value was taken. Frequency was used

to count how many respondents gave a particular answer to each question. Percentage was used to determine the fraction of people who gave a particular response. Table 5.1 depicts the Level of Student Satisfaction regarding the course.

Table 5.1 Level of Student Satisfaction

Figure 5.1 Level of Student Satisfaction

Level of Satisfaction	Frequency	Percentage
Moderate	8	3.3%
High	209	86.4%
Very High	154	10.3%
Total	242	100%



In the study it aimed to identify level of Perceived quality regarding the course. To measure the perceived quality, six dimensions of perceived quality was identified and level of quality of each dimensions were identified using the mean value Following Table 5.2 summarizes the

levels of perceived quality in each dimension identified to measure the perceived quality in DE.

Table 5.2 Level of Perceived Quality

Analysis indicated that, Majority of respondents perceived all dimensions including, SPQP, SPQF, SPQL, SPQI, SPQE and SPQC are of high quality.

Item	Level of Perceived Quality		
	Mod erate	High	Very High
Perception on Quality of Pedagogy (PQP)	0.8	78.9	20.2
Perception on Learner Support Quality (SPQL)	12.8	80.2	7.0
Perception on Quality of the Faculty (PQF)	13.2	71.5	15.3
Perception on the Quality of Infrastructure (SPQI)	24.8	68.6	6.6
Perception on the Institutional Credibility (SPQC)	7.4	61.6	31
Perception on the Quality of Evaluation (SPQE)	10.7	82.2	7.0

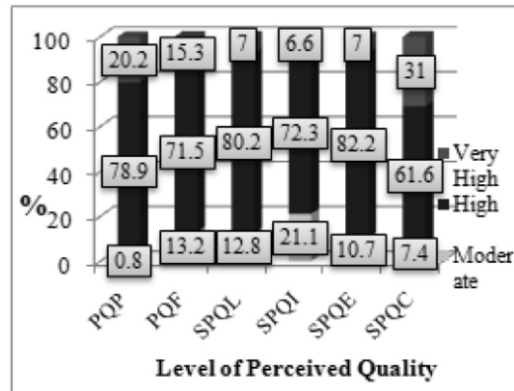


Figure 5.2 depicts the summary of Perceived quality of each dimension.

Hypotheses Testing

According to the Results of the hypothesis testing all hypotheses except perception on faculty quality, the alternative hypotheses were accepted. All dimensions except perception on faculty quality have moderate positive relationship with student satisfaction. Perception on faculty quality indicated weak positive relationship with student satisfaction. It was found that perception on quality of the faculty and student satisfaction is not significantly correlated with student satisfaction (Sig = .739) It can be identified as a positive weak relationship as the Pearson Correlation coefficient value $r = 0.02$ which lies in the range of 0.0 – 0.25. Accordingly the null hypothesis was accepted and the alternative hypothesis was rejected

Table 5.3: Summarizes the hypothesis testing results of the study.

Hypot thesis	Sig	R valu e	H1	H0
Hypoth esis 1	.000	0.510	Accepted	Rejected
Hypo thesis 2	.000	0.552	Accepted	Rejected
Hypoth esis 3	.739	0.022	Rejected	Accepted
Hypoth esis 4	.000	0.542	Accepted	Rejected
Hypoth esis 5	.000	0.565	Accepted	Rejected
Hypoth esis 6	.000	0.510	Accepted	Rejected

All dimensions except perception on faculty quality have moderate positive relationship with student satisfaction. Perception on faculty quality indicated weak positive relationship with student satisfaction. It was found that perception on quality of the faculty and student satisfaction is not significantly correlated with student satisfaction (Sig =.739) It can be identified as a positive weak relationship as the Pearson Correlation coefficient value $r = 0.02$ which lies in the range of $0.0 - 0.25$. Accordingly the null hypothesis was accepted and the alternative hypothesis was rejected

The main objective of the study was to identify the impact of perceived quality of DE on student satisfaction. Accordingly, to

what extent does perceived quality influences student satisfaction was analysed using regression analysis. Following table depicts the output of the regression analysis

Mod el	R	R Square	Adjuste d R Square	Std. Error of the Estimate
1	.643(a)	.413	.411	2.972

Mbwesa, 2014. Results of that indicated

Table 5.4 Regression Analysis.

The results indicate that, 41.3% variation in student satisfaction can be explained by the variance of perceived quality. The remaining 59.7% can be explained by other factors which are not included in the conceptual framework of the study

Discussion

Findings of the study revealed that, all variables used to measure perceived quality of DE (SPQP, SPQL, SPQF, SPQE, SPQC and SPQI) were positively correlated with student satisfaction. This is also supported by previous study, which has indicated that 10 dimensions (Faculty support, Student support, Information & publicity, Interactive tasks, Institutional quality assurance mechanism, Institutional credibility, Course development, Teaching & learning Evaluation & assessment and Infrastructure dimension) across supportive, pedagogical, and environmental domains are important in judging quality in distance education. (Jung, 2012, Mbwesa, 2014)

Furthermore findings of the study revealed that all dimensions except perception on faculty quality have moderate positive relationship with student satisfaction. Perception on faculty quality indicated weak positive relationship with student satisfaction. This Finding is consistent with previous study of Mbvesa, (2014). Which indicate that there was a weak positive correlation between SPQF and SPS and which was not significant. This implies that SPQF does not have a strong influence on perceived students' satisfaction with the course (SPS).

Findings of the study further revealed that perception on quality of pedagogy and student satisfaction is significantly correlated with student satisfaction. It can be identified as a positive moderate relationship. This finding is not consistent with the previous study conducted by ,2014. Results of that indicated that there was a weak positive correlation between SPQS and SPS.

When it comes to the perception on quality of learner support and student satisfaction, It was found that perception on quality of learner support and student satisfaction is significantly correlated with student satisfaction. This finding is not consistent with the previous study conducted by Mbvesa, 2014. As the Results indicated that there was a weak positive correlation between SPQS and SPS and implies that SPQL does not have a strong influence on

perceived students' satisfaction with the course.

Findings on Institutional Credibility and student satisfaction revealed that perception on Institutional Credibility and student satisfaction is significantly correlated with student satisfaction. This is s also supported by previous study, which has indicated SPQI and SPS were positively correlated and which was significant which implies that SPQI does have a strong influence on perceived students 'satisfaction with the course (SPS).

When analyzing quality of evaluation and student satisfaction findings indicated that is significantly correlated with student satisfaction. This is supported by a previous study conducted by Jung, 2011. It reported that In the pedagogical domain, evaluation and assessment was the most powerful dimension in explaining DE quality. The learners saw fair and clear learning assessment guidelines and periodic students' evaluation of teaching and learning as particularly important. This Finding is also consistent with previous studies, which highlight the importance of evaluation and assessment in assuring the quality of e-learning (Frydenberg, 2002; Lodzinski & Pawlowski,2006).

Findings of perception on quality infrastructure and student satisfaction revealed that it is significantly correlated with student satisfaction. this finding is consistent with the findings of Mbvesa

2014, where it indicated that there was a positive correlation between SPQI and SPS and which implies that SPQI does have a strong influence on perceived students' satisfaction with the course (SPS).

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FACULTY REQUIREMENTS PLANNING AND COURSE CYCLING IN PART-TIME, ONLINE DEGREE PROGRAMS

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ABSTRACT

Many universities are moving toward the offering of part-time, online degree programs particularly at the graduate level. Typically the dean or another administrator is responsible for devising a course cycling plan along with adequate supporting faculty resources that enables students to progress and graduate within a reasonable and expected span of time. This problem is difficult to resolve due to uncertainty of demand for specific courses contained in the program. For example: (i) the program may be delivered with flexibility in time-to-completion, meaning that students are not assigned at admission to a specific cohort that proceeds in lockstep fashion toward graduation; (ii) the curriculum may contain elective courses which inject an element of choice; (iii) some courses may require the completion of other courses as prerequisites creating demand dependencies; and (iv) not every matriculated student successfully completes the program, and empirically observed retention rates will need to be factored in. Here we propose an approach for planning faculty requirements and course offerings that meets student flow and other constraints. The methodology combines linear programming with well-known operations management concepts such as material requirements planning and flow analysis.

Keywords: Academic course planning, Educational supply chain, Linear programming, material requirements planning, Online education

1. INTRODUCTION

Many universities are moving toward the offering of part-time, online degree programs particularly at the graduate level (e.g. online MBA programs). Such programs simultaneously offer challenges and opportunities for administrators in the planning and offering of an appropriate mix

of courses each term along with a sufficient number of course sections. The aim is to ensure that student progress toward graduation is not impeded while also meeting constraints on institutional resources such as available faculty. When part-time degree programs are focused on flexibility and convenience, they tend not to

be cohort-based. In such environments, it becomes difficult to predict actual enrollments on a term-by-term basis since students can stop out and resume at will. Other general challenges in academic planning that also apply to part time, online degree programs are: course prerequisites (which create demand dependencies), elective courses (with inconsistent and variable demand), and remedial courses (which may be required of some, but not all, admitted students). On the flip side however, the fact that these programs are offered in an asynchronous and online delivery mode mean that some of the usual constraints (classroom capacity, room and/or faculty time conflicts) that make such problems notoriously difficult to solve *do not apply*. In some sense, even geography is not a constraint since remote adjunct faculty could be tapped to teach online sections as long as any accrediting agency guideline on the ratio of part-time to full-time faculty is not exceeded.

Several distinct methodological approaches have been proposed in the literature to address academic course planning and the efficient utilization of resources in higher education. Johnes (2015) recently provided a review of operations research applications to the field of education in a broad range of areas including planning and allocation of resources. The prediction of student flow, a key concern in the literature, was addressed using Markov analysis in Bessent and Bessent (1980) and Kwak, Brown, and Schiederjans (1986). An alternative

approach used simulation methodology (see e.g. Boronico (2000), Saltzman and Roeder (2012)). Plotnicki and Garfinkel (1986) describe a simulation approach to maximize student flow (or minimize student flow time) subject to staffing constraints. Operations management concepts such as the celebrated Little's Law was applied by Litteral and Walk (2010) to predict persistence to graduation, student productivity, and program growth trends. Another well-known technique from operations management, MRP (Material Requirements Planning) was adapted to higher education planning by Cox and Jesse Jr. (1981).

In this paper, we propose a modeling approach to determine faculty requirements and course offering frequencies that meets student flow and other constraints. The approach merges linear programming with MRP and flow analysis. Our methodology is most closely related to that of Cox and Jesse Jr (1981) but differs from their approach in at least three key respects: (i) linear programming is used to perform the MRP explosion calculus; (ii) empirical attrition rates are incorporated to account for losses in student flow; and (iii) elective course requirements are time-phased based on both predicted graduation counts as well as course cycling patterns.

2. A LINEAR PROGRAM FOR MATERIAL REQUIREMENTS PLANNING

Material Requirements Planning (Orlicky,

1975) is a production scheduling and material planning technique widely used in industry to derive time-phased production schedules for dependent-demand items (lower-level assemblies and raw materials) based on demand forecasts for the finished goods. This differs from other approaches such as reorder point planning and consumption-based planning which do not taken into consideration either demand forecasts for the finished good, or the dependencies between the items constituting the bill of materials. MRP attempts to minimize inventory costs by producing at the latest possible point in time (backward scheduling). Other features of the MRP calculus (Vollman *et al.*, 2005) include: the netting out of any existing inventories (gross-to-net explosion) and accounting for component manufacturing times (lead time offsetting). When *lot-for-lot ordering* is used (i.e. there is no lot sizing), the following linear programming model can be used to model MRP.

Parameters

N = number of items in the bill of materials

T = number of time periods ("buckets") in

planning horizon

$L(i)$ = lead time for item i

$SUCC(i)$ = set of successors (parents) of item i

$u(i, j)$ = number of units of item i needed to make one unit of its successor j (usage quantity)

h_{it} = cost of holding one unit of item i in period t

c_{it} = cost of producing one unit of i to be available at the beginning of period t

d_{it} = external demand of item i in period t (net of any scheduled receipts)

Variables

I_{it} = end-of-period inventory of item i in period t

P_{it} = production quantity of item i to be completed by the beginning of period t

If c_{it} is invariant with time (i.e. $c_{it} = c_i$ for all t), then it could be set to zero without loss of generality. Any initial inventory can be netted out of the demand figures eliminating a need for an initial inventory variable; thus, I_{it} is defined over $1 \leq t \leq T$. *Example:* Consider a 5-item, 9-week problem for the bill of materials shown in Figure 2.1.

$$\text{Minimize } \sum_{i=1}^N \sum_{t=1}^T h_{it} I_{it} + \sum_{i=1}^N \sum_{t=L(i)+1}^T c_{it} P_{it} \quad (1)$$

$$I_{i,t-1} + P_{i,t} - I_{i,t} - \sum_{j \in SUCC(i)} u(i, j) P_{j,t+L(j)} = d_{it} \quad i = 1, 2, \dots, N; t = 1, 2, \dots, T \quad (2)$$

$$I_{it} \geq 0 \quad i = 1, 2, \dots, N; t = 1, 2, \dots, T \quad (3)$$

$$P_{it} \geq 0 \quad i = 1, 2, \dots, N; t = L(i) + 1, \dots, T \quad (4)$$

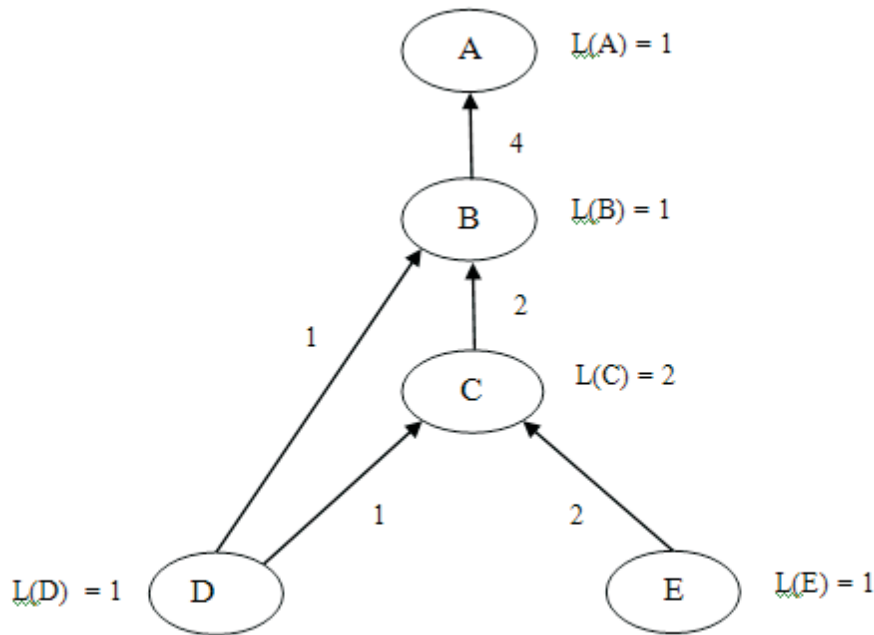


Figure 2.1: Bill of Materials for Example

$SUCC(A) = \{\emptyset\};$
 $SUCC(B) = \{A\};$
 $SUCC(C) = \{B\};$
 $SUCC(D) = \{B, C\};$
 $SUCC(E) = \{C\};$

The usage quantities $u(i, j)$ and lead times $L(i)$ are indicated in the figure. Only the end-item, A, has external demand, given as as 15, 20, 30, and 25 units in weeks 6 through 9 respectively. Costs were set as follows: $h_{it} = 1.0$; $c_{it} = 2.0$ for all i and t .

Table 2.1 gives the optimal values of the production variables yielded by solving the linear program, and which can be verified to correspond to *planned order receipts* in the standard MRP explosion calculus.

3. A METHODOLOGY FOR PLANNING COURSE OFFERINGS

Our approach for course cycle planning modifies the generic MRP model above to

Table 2.1: Optimal Values of P_{it}

Item	Week								
	1	2	3	4	5	6	7	8	9
A						15	20	30	25
B					60	80	120	100	
C				120	160	240	200		
D		120	160	300	280	120	100		
E		240	320	480	400				

account for student attrition rates as well as the presence of elective courses (similar to customer “options” in a manufacturing bill of materials). The methodology is described here using the example of a part-time, online MBA program that was being offered at a small, private university in the Northeast region of USA. The 12-course program consisted of four “components”: an initial cornerstone course, a core component, an elective component, and a final capstone course. All students began with the cornerstone course which introduces students to the triple themes of corporate responsibility, social justice, and environmental sustainability, setting the stage for the subsequent coursework. Following this, the students moved into the core portion of the program which consisted of seven courses, one each from the standard business disciplines (accounting, operations, information systems, management, marketing, economics, and finance). On completion of the core, students could opt for a specialization by completing three elective courses, all taken from the same focus area. Six areas were available: accounting, enterprise resource planning, healthcare management, human resources, international business, and operations management. A seventh option, called “general”, applies when a student chooses not to specialize, but mixes and matches elective courses from across disciplines. Thus there was a total of seven degree paths (the general and six specializations) to choose from. Finally all were required to take a capstone class in business policy to complete requirements for the degree. A schematic is given in Figure

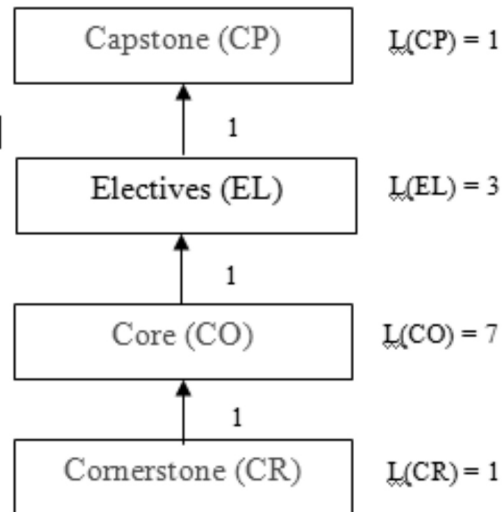


Figure 3.1: Schematic of Program Structure

are denoted as CR , CO , EL and CP respectively.

Not every student who matriculates could be expected to graduate from the program. This may be attributed to any number of reasons, e.g., lack of finances, work-related or personal issues, aptitude, performance, etc. Using historical data, it is possible to forecast attrition rates at various stages of the program. In general, attrition is highest at the beginning of the program (during or at the end of the first course), and will tend to taper off as students complete each additional program component. We define the following (the MRP time buckets will be “terms” in the academic context):

α_j = attrition rate of students at the end of component j ($j = CR, CO, EL, CP$)

A_t = number of students matriculating in term t

G_t = number of students graduating in term t

These parameters are related via the following relationship:

$$G_{t+\sum_j L(j)} = \prod_j (1 - a_j) \times A_t \quad (5)$$

where $a_{CP} = 0$.

The course sequencing may be done using the MRP approach as follows: Each program component is analogous to an "item" in the MRP model, with CP being the end-item. To estimate the demand values $d_{i,t}$, we project the number of graduates in each future term G_t using Eq. (5). For periods in the near term, A_t may be set equal to the number of students who were admitted and have actually matriculated into the program. For terms further out into the future, we can use a suitable forecasting technique to predict A_t based on observed patterns such as an increasing (or decreasing) trend in the number of applications, or any expected seasonality (e.g. fewer applicants wishing to start in a summer term). The demand parameter $d_{CP,t}$ in the MRP model is then set to the values G_t as computed above. All other components have zero (external) demand. Lead time of each component is measured in "terms" (each term is eight weeks long) and reflects the number of courses comprising that portion. Thus: $L(CR) = 1$; $L(CO) = 7$; $L(EL) = 3$; $L(CP) = 1$.

Interdependencies are reflected as:

$$\begin{aligned} SUCC(CP) &= \{\emptyset\}; \\ SUCC(EL) &= \{CP\}; \\ SUCC(CO) &= \{EL\}; \\ SUCC(CR) &= \{CO\}. \end{aligned}$$

For all periods and components h_{it} is set to 1, and c_{it} to zero. Initial inventories are also set to zero.

This academic course planning approach differs however in one significant way from the MRP model presented in §2, and that has to do with the incorporation of the attrition rates into the usage quantities, as follows: $u(i, SUCC(i)) = 1/(1 - a_i)$. For example, $u(CO, EL)$ is set equal to $1/(1 - a_{CO})$. On solving the MRP model with these settings, we obtain the optimal values of the P_{it} variables—or, in our case, $P_{CR,t}$; $P_{CO,t}$; $P_{EL,t}$; and $P_{CP,t}$. In the case of both the cornerstone ($P_{CR,t}$) and capstone ($P_{CP,t}$) courses, these values are final in the sense that they represent the requirements that will be needed in order to meet the predicted student flow.

For the CO and EL components however, since they each represent a collection of courses, the P_{it} values need to be further broken down to the level of specific courses. In the case of the core component, we simply offset the optimal $P_{CO,t}$ values to derive the time-phased requirement for each individual core course. For the j^{th} core course $co(j)$:

$$P_{co(j),t+j-1} = P_{CO,t} \quad (j = 1, 2, \dots, 7)$$

In the case of the elective component, since the courses are not mandatory, some additional steps are necessary to derive the time-phased requirements. We use $el(k, m)$ to denote the k^{th} elective in the m^{th} specialization. Define:

f_m = fraction of students choosing specialization m ($m = 1, 2, \dots, 6$)

f_g = fraction of students choosing the "general" option (denoted by setting $m = g$)

N_m = number of available electives in specialization m

N_g = number of miscellaneous electives that do not count toward any specialization

p_{km} = popularity of $el(k, m)$ among students belonging to specialization m

q_{km} = popularity of $el(k, m)$ among the “general” students

Both p_{km} and q_{km} are the historical fractions of students in the respective specialization (either m or general) who choose to take the given elective.

With these definitions, the following equation can be used to compute the requirement for elective $el(k, m)$ within the 3-term lead time for component EL , i.e. the window that begins in term t and runs through $(t+2)$.

$$R_{el(k,m),t} = (f_m p_{km} + f_g q_{km}) P_{EL,t} \quad (6)$$

In other words, $el(k, m)$ must be offered at least once within the lead time window $[t, t + 2]$ with sufficient capacity to handle $R_{el(k,m),t}$ enrollments in order for these students to progress without delay to their expected graduation date as captured in the $P_{CP,t}$ values.

The N_m electives belonging to specialization m should then be spread evenly within this 3-term window in order to balance both faculty and student loads. This may be accomplished by assigning $el(k, m)$ to terms initially as follows:

term 1 if $k \bmod 3 = 1$;
term 2 if $k \bmod 3 = 2$;
term 3 if $k \bmod 3 = 0$.

These initial settings are then repeated with a “period” of 3 terms, i.e. any given elective will only be offered in one of three possible sequences: either in terms $\{1, 4, 7, \dots\}$; or in terms $\{2, 5, 8, \dots\}$; or in terms $\{3, 6, 9, \dots\}$. This guarantees the offering of all electives

within every 3-term window regardless of the starting point of the window.

Alternatively, from the perspective of the term, we could also state that a term t is assigned to electives, as follows:

$el(1, m), el(4, m), el(7, m),$
... if $t \bmod 3 = 1$;
 $el(2, m), el(5, m), el(8, m),$
... if $t \bmod 3 = 2$;
 $el(3, m), el(6, m), el(9, m),$
... if $t \bmod 3 = 0$.

In any given term, one and exactly one of the above elective sequences will be offered.

The time-phased requirements $TR_{el(k,m),t}$ may now be computed by applying the above assignment rules to the $R_{el(k,m),t}$ values computed in eq. (6). This is illustrated by means of a numerical example next.

3.1 Numerical Example for the Time-Phasing of Elective Courses

Consider the example below (Table 3.1.1) with two specializations, Marketing (MKT) and Finance (FIN), plus the non-specialization option (GEN). MKT has five electives (numbered sequentially from 561 to 565), FIN has four (581-584), and there are three miscellaneous electives (591-593). GEN (general) students can pick their electives from any of the specialization areas whereas students in the other two specializations must pick all of their electives from their own respective areas. The historical fraction of students enrolled in each specialization is given in the first column in Table 3.1.1. Column 4 (“Sp.”) gives the popularity of each elective for students in that particular specialization, p_{km} , whereas column 5 (“Gen”) gives the popularity of each elective for the GEN students, q_{km} .

Table 3.1.1: Requirements for the Elective Component ($R_{el(k,m),t}$)

Specializations (Sp.) & Electives (El.)			Popularity		Requirements (by term)				
Enrolled Fraction	Sp.	El.	Sp.	Gen	1	2	3	4	5
			p_{km}	q_{km}	$P_{EL,t}$				
					40	100	120	90	140
60%	MKT	561	0.8	0.1	19.6	49	58.8	44.1	68.6
		562	0.1	0.2	3.2	8	9.6	7.2	11.2
		563	0.5	0.1	12.4	31	37.2	27.9	43.4
		564	0.6	0.3	15.6	39	46.8	35.1	54.6
		565	0.2	0	4.8	12	14.4	10.8	16.8
30%	FIN	581	1.0	0.2	12.8	32	38.4	28.8	44.8
		582	0.1	0.1	1.6	4	4.8	3.6	5.6
		583	0.9	0	10.8	27	32.4	24.3	37.8
		584	0.8	0	9.6	24	28.8	21.6	33.6
10%	GEN	591		0.5	2	5	6	4.5	7
		592		0.6	2.4	6	7.2	5.4	8.4
		593		0.7	2.8	7	8.4	6.3	9.8

Column 6-10 give the requirements for the elective component. The first row of numbers (40, 100, 120, etc.) gives the values of $P_{EL,t}$, i.e. for the entire elective component, whereas the remaining rows

display the requirements $R_{el(k,m),t}$ for each individual elective course based on eq. (6). Next, we time-phase these requirements following the approach described previously, and the results are displayed in Table 3.1.2.

Table 3.1.2: Time-Phased Requirements for Individual Elective Courses ($TR_{el(k,m),t}$)

Specializations & Electives		Time-Phased Requirements (by term)						
Sp.	El.	1	2	3	4	5	6	7
MKT	561	19.6			49 + 58.8 + 44.1			68.6
	562		3.2 + 8			9.6 + 7.2 + 11.2		
	563			12.4 + 31 + 37.2			27.9 + 43.4	

MKT	563			12.4 + 31 + 37.2			27.9 + 43.4	
	564	15.6			39 + 46.8 + 35.1			54.6
	565		4.8 + 12			14.4 + 10.8 + 16.8		
FIN	581	12.8			32 + 38.4 + 28.8			44.8
	582		1.6 + 4			4.8 + 3.6 + 5.6		
	583			10.8 + 27 + 32.4			24.3 + 37.8	
	584	9.6			24 + 28.8 + 21.6			33.6
GEN	591	2			5 + 6 + 4.5			7
	592		2.4 + 6			7.2 +		
						5.4 + 8.4		
	593			2.8 + 7 + 8.4			6.3 + 9.8	

Each course section is capped at 20 students, so the required number of course sections for each elective-term combination can be found by the ceiling function: $\left\lceil TR_{el(k,m),t} / 20 \right\rceil$. Manual adjustments may need to be made to the computed values, e.g. GEN 591 in term 1 with only 2 students may be moved to a different term or canceled altogether.

4. CONCLUSION

A methodology is proposed in this paper for planning instructor (faculty) requirements as

well as frequency of course offerings to meet expected graduations dates of admitted students. It takes into consideration actual student matriculations (in the near term), estimated enrollment projections (in the longer term), and historical attrition rates in order to derive time-phased course offerings and course sections needed for both mandatory and elective courses in the program structure. The proposed approach should enable the efficient utilization of scarce faculty resources while meeting student flow constraints.

Moreover, the approach could readily be adapted to handle further scenarios that have not been explicitly addressed in the current paper. Here are some possible extensions for future work: (i) Programs with a “flexible” core: Students may only be required to take a *subset* of the core courses rather than all of them. For example, in the institutional example discussed in this paper, students are now required to take only a minimum of four core courses (instead of all seven). These courses are to be picked from three distinct clusters (at least two from the accounting, economics, and finance cluster; at least one from the operations and information systems cluster; and at least one from the management and marketing cluster). (ii) Remedial work: Students with deficiencies in their prior academic preparation and/or work experience are assigned to one or more short courses. In the example program discussed, each such “qualifying course” was only of four weeks duration, i.e., with a lead time of 0.5 term. (iii) Re-entering students: In a non-lockstep program, a few students may take time off at some point after matriculation. Although they represent only a small fraction of the total student population, re-entering students must be factored in when computing course offerings and faculty requirements.

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AN EXPLORATORY STUDY OF AFFECTING KEY FACTORS ON MARKET ORIENTATION BY SMALL AND MEDIUM SCALE ENTERPRISES

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ABSTRACT

Small and Medium scale Enterprises (SMEs) are called as the engine of the economy in developing countries such as Sri Lanka. Accordingly, SMEs are playing significant role in socio economic development of any country. In Sri Lanka, SMEs are contributed for the national GDP by 70% (Central Bank of Sri Lanka, 2013). Majority of SMEs are being engaged with local resources utilized business activities. SME creates a platform for locals to manufacture products and services using indigenous resources to get its optimum contribution for the nation. Majority of SME entrepreneurs are doing their own enterprises utilizing their own skills, knowledge, and expertise and so on. They are much creative enough in developing new product and service concepts in order to the market standards. How much standards they are following on, marketing their products and services is the main obstacle they have confronted. Due to poor market orientation practices followed by SMEs, still they cannot produce their maximum contribution to the economy. Having an intention on these obstacles confronted by SMEs, this study is designed to identify the key determinants affecting on market orientation by SMEs. Further this study attempted into identification of issues and barriers that are inhibited the producing market oriented products and services by SMEs. For the purpose of this field study researches have selected Matara District as their research site. Small and Medium scale entrepreneurs were the population for this study. Numbers of 50 SMEs have been randomly selected for the sample and a structured questionnaire was used to gather relevant primary data. Using factor analysis technique results were found. The results were discussed relating to four key areas; market based rewards systems, top management emphasis, inter-functional connectedness and management risk posture. Finally the study concluded that designing the cushion environment for SMEs is the responsibility of policy making bodies to get the maximum of SMEs within this challenging economic conditions and hostile competitive environment.

Keywords: Challenges and Issues, Market orientation, Small and Medium scale Enterprises (SMEs)

1. INTRODUCTION

The exploratory work conducted prior to this study work also pointed to the importance of being dedicated towards customers, scholarly contributions on the market-orientation became very interesting. As Kara et al. (2005) explain, several research findings indicating key factors affecting market orientation highlights the significance of market orientation. Through the review of scholarly contributions on the market orientation, it was discovered that the innovation and entrepreneurship research fields could provide valuable input to the research model. In fact, researchers examining the key factors affecting on market orientation have increasingly added innovation, and innovativeness as constructs to their research models (Slater and Narver 2000; Agrawal et al.2003), and the research findings indicate that such constructs provide new insight to the concept of market orientation. Complementing market orientation by entrepreneurship and innovation was in fact the basic idea presented by Peter Drucker as early as in 1954. He defined a business purpose to create a customer, and stated that “because it is its purpose to create a customer, any business enterprise has two and only these two basic functions: marketing and innovation”.

The ornamental fish market in Sri Lanka is one of the significant sectors in Sri Lankan economy. The small and medium scale ornamental fish entrepreneurs in the

Southern Sri Lanka contribute a lot to the sectorial development through facilitating contract basis supplies. As such, it is interested in understanding more about the key factors driving the market orientation of small and medium scale entrepreneurs in the ornamental fish industry, Sri Lanka. The research question leading a direction to an empirical investigation in this study is 'what are the key factors affecting on *market orientation of small and medium scale enterprises (SMEs)*?

1.1 Significance of the study

The review of literature conducted as part of this study confirms the existence of relatively few empirical studies focused on the market orientation with respect to small and medium scale business (Aldrich 1990; Herron and Robinson 1993). In fact, researchers have commented upon the large extent of exploratory and qualitative research that now exists on business, and that this research is mixed in quality and academic rigour (Robinson 1998; Sandberg and Hofer 1987). The current research is as such a response to the urge for more empirical studies within this novel research area in terms of surveys. It thereby adds to the existing body of literature, and provides several insights for managers in livestock firms.

This research also contributes to the ongoing effort within entrepreneurship research to develop valid and reliable scales. Market orientation is still a novel research area where researchers face measurement

challenges due to the lack of sophisticated measures. Researchers have therefore urged for the development of better means for measuring new aspects in terms of construct and instrumentation development (Vesper 1990; Westhead et al. 2001). The market orientation scale developed in the current study provides such a means, and gives researchers a rigorous research procedure that may relieve them from repeated efforts at construct and instrumentation development when it comes to the small and medium scale enterprises.

2. LITERATURE REVIEW

This section is fully devoted to present previous research findings and relevant literature from various research fields to enrich the selected concepts of the study. Together with observational data collected data prior to this study, the review of prior theory from the different research fields, and findings reported in relevant empirical surveys, justified the inclusion of market orientation as the main variables in the research model.

2.1 Market orientation

Marketing academicians and marketing managers have over decades been claiming that firms increasing their market orientation will improve their market performance (Narver and Slater 1990). Furthermore, market orientation is by many scholars regarded as one of the most important concepts in the marketing discipline (Kara et al. 2005). However, it was not until the

beginning of the 1990s that systematic research on market orientation, and the consequences of a market orientation, really took off. This new stream of research treats market orientation as synonymous with implementation of the marketing concepts (Deng and Dart 1994). Slater and Narver (1994) are even more explicit when they describe implementation of the marketing concept as the firm's intentions to deliver superior value to its customers on a continuous basis by satisfying their wants and needs. The importance of a customer focus is emphasized by Desphande et al. (1993) who, in line with Drucker (1954), argue that the marketing concept calls for customer orientation and innovation as the focus for all business planning and strategy. Peterson (1989) regards the marketing concept as a business philosophy which requires that all employees focus their efforts on customer satisfaction, and that financial outcomes are results of the firm selectively meeting customer needs. In line with the aforementioned facts, most of researches have concluded that high market oriented companies perform better than companies that are less market oriented. They focus on adapting their products and services to the needs and expectations of their customers instead of those who are product oriented and focus on developing a product or service that is then marketed and hopefully sold. To achieve this customer focus, a firm with a high degree of market orientation cultivates a set of shared values and beliefs about putting the customer first

and reaps results in form of a defendable competitive advantage, decreased costs and increased profits.

Nevertheless, before reviewing the research on the market orientation construct and the different market orientation perspectives, it may be worth-while to briefly discuss the philosophy behind the marketing concept as it has developed during the years. As Day (1994) argues, business managers have over the last 50 years been advised to stay close to the customer, to put the customer at the top of the organization chart, and to define the purpose of the business as the creation and retention of satisfied customers. Since, Drucker (1954) argued that creating a satisfied customer was the only valid definition of business purpose, there have been many subsequent authors describing the marketing concepts and its benefits (Day 1994).

Both Webster (1994) and Kotler and Armstrong (2006) emphasize that knowledge about customers, their characteristics, needs, and preferences are the core of the marketing concept. Knowledge, understanding, and commitment are also shared throughout the organization in the marketing concept. As Webster (1994: 28) puts it, in implementing the marketing concept “*marketing becomes the part of the organization's culture as well as knowledge systems that guide decision making at all levels*”. Hence, all decision making in market-driven firms centers round customer information, competitive

intelligence, and a clear concept of the firm's value proposition (Webster 1994). This is consistent with arguments made by Gronroos (1999) and Gummesson (1991), who argue that the entire organization should be responsible for the marketing function. The discussion above, and also consistent with the historical examination by Wrenn (1997), indicates that the marketing concept generally has been conceded to consist of three elements: 1) customer philosophy 2) goal attainment, and 3) integrated marketing orientation. The third element relates to an organization-wide effort to satisfy corporate goals by satisfying customer needs and wants.

Market orientation scholars such as Kohli and Jaworski (1990), Narver and Slater (1990), Ruekert (1992), Gainer and Pandanyi (2005), and Carr and Lopez (2007) have argued that market orientation traces its origins from the market concept and has consequences to overall business strategy. The marketing concept is concerned with customer orientation, competition orientation, innovation and profit as an inducement for creating satisfied customers (Narver and Slater, 1994; Hunt and Morgan, 1995).

Although there are many perspectives in marketing concepts, in this study consider about customer orientation, competitor orientation, inter-functional coordination and social benefit orientation. Market orientation has been widely accepted by scholars as the implementation of the market

concept, as an organizational culture, or as a mix of those two (Greenley, 1995; Han, Kom and Srivastave, 1998). Other scholars argued that market oriented behaviour in marketing new solutions leads to better performance, has positive effects on customer satisfaction and loyalty as well as innovation, employee satisfaction and cooperation (Twaites and Lynch, 1992, Deshpandé, Farely and Webster, 1993; Gatignon and Xuereb, 1997).

2.1.1. Customer Orientation

The modern marketing concept is well described and discussed by Kotler and Armstrong (2006). The objective underlying the modern marketing concept is to develop a customer relationship in which the sale is only the beginning (Webster 1994). This is consistent with the notion Kotler and Armstrong (2006) make, that the marketing concept is a kind of consumer-centered “sense and respond” philosophy. As such, Kotler and Armstrong (2006: 10) define the marketing concept as *“the marketing philosophy that holds that achieving organizational goals depends on knowing the needs and wants of target markets and delivering the desired satisfactions better than competitors do”*. Hence, under the modern marketing concept, customer focus and value are of utmost importance for sales and profit. As Webster (1994: 22) states, *“to survive in the future, every business will have to be customer focused, market-driven...and flexible in its ability to deliver superior value to customers whose preferences and expectations change*

continuously”. According to Webster (1994), it is the value delivery concept of strategy that has helped bring customer orientation, as called for by the old marketing concept, back into the forefront. He further states that in the new marketing concept the focus is sharpened by adding the idea of the value proposition, or what Kotler and Armstrong (2006) define as *“a set of benefits that they (companies) promise to customers to satisfy their needs”*.

Narver and Slater (1990) described customer orientation as the sufficient understanding of a company's target customers to be able to create superior value for them continuously. It requires that marketers understand a buyer's entire value chain (Day and Wensley, 1988). This dimension has received a good deal of attention in the research literature (Deng and Dart, 1994). Kohli and Jaworski (1990) found in their interviews with company managers that a customer focus is a critical element in determining market orientation.

2.1.2. Competitor Orientation

A competitor orientation may lead to a cost advantage because competitor oriented businesses tend to watch costs closely, so they may quickly match the marketing initiatives of competitors. According to Narver and Slater (1990, p. 21-22) competitor orientation, as an element of market orientation, means that “a seller understands the short-term strengths and weaknesses and long term capabilities and

strategies of both the key current and potential competitors”. The purpose of a competitor orientation is to provide a solid basis of intelligence pertaining to present and potential competitors for executive actions. Competitors can be defined as firms offering products or services that are close substitutes, in the sense that they serve the same customer need (Porter, 1980; Kotler, 2000). For example, in serving the coffee sweetener market, a provider of beet sugar faces competition from other providers of beet sugar, as well as from providers of cane sugar and synthetic sugar. However, small organisations seem to view competitor orientation differently and are not as concerned with long term strategies. The literature suggests that most businesses are short-term oriented (Carson 1990, Harris and Watkins 1998), and that short-term results are perceived to be more important than long term strategic issues (Harris and Watkins 1998).

2.1.3. Inter Functional Coordination

Inter functional coordination describes the ability of different functional areas to accommodate disparate views and work around conflicting perspectives and mental models by putting aside functional interests for the better of the organization as a whole. As the literature on internal marketing is rapidly growing, Inter Functional Coordination is also viewed as an important criterion of internal marketing. Rafiq & Ahmed (1993, p. 229) defined the boundary between marketing and human resources

management while arguing that organizations need to “look at ways of increasing cross functional coordination”. Though mentioned as early as in 1993, Inter Functional Coordination was not “officially” identified as one of the criteria of internal marketing until in 1993, when Rafiq & Ahmed proposed a comprehensive definition of internal marketing. Rafiq & Ahmed (1993) reviewed conceptual and empirical literature on the definition of internal marketing and identified Inter Functional Coordination as one of the five main criteria of internal marketing. Another way, Inter functional coordination is defined as the integration and collaboration of various functional areas (or departments) within an organization as a way of enhancing communication and information to better meet the organization's goal (Narver & Slater, 1990). According to above definition to become customer oriented organization communication of information is must. Inter functional coordination describes the ability of different functional areas to accommodate disparate views and work around conflicting perspectives and mental models by putting aside functional interests for the better of the organization as a whole. Nakata and Sivakumar (2001) highlighted that inter functional coordination represent a key form of internal social capital of an organization. Organizational resources often have conflicting priorities, different perspectives, and strategies (Nakata and Sivakumar, 2001). Academics and practitioners have long contended that synergy among

company members is needed. A culture of integrating all departments towards better and continuous creation of customer value should lead to a market orientation within the company and successful implementation of the marketing concept (Harrison and Shaw, 2004).

2.1.4. Social Benefits Orientation

Social benefits can be defined as the increase in the welfare of a society that is derived from a particular course of action. Most social benefits cannot be quantified (Adler, 2002). When considering this definition it is crystal clear that social benefit orientation is attached with the welfare of the customers or the society and each and every business organization should pay high consideration to the social benefits. It comes with the concept of corporate social responsibility. Furthermore, according to Adler (2002), social benefit is the total benefit to society from producing or consuming a good or service. Social benefits include all the private benefits plus any external benefits of production or consumption. Although in this definition they highlighted that Private benefit is a part of social benefit this study concerns about the external benefits provided by the organizations. If a good or service has significant external benefits, then the social benefit will be greater than the private benefit. The social benefit achieved by a social project can be defined as the improvements attained in the living conditions of its beneficiaries that are directly attributable to the project. Another

way of explaining about social benefit is defined by measurement against a “third-party standard,” and all statutes permit incorporators to also pursue more “specific social benefits”. Based on above perspectives importance of social benefit oriented activities has been increased. Most of the organizations are aimed to use strategies in order to positioning in consumer's mind about the organizations as well as the products.

3. STUDY DESIGN AND METHODS

Easter by Smith et al. (2001) categorize the philosophical positions or paradigms into two main traditions, phenomenology and positivism, and point out that each of the philosophical positions has implications for the choices to be made in the research design. The key idea of positivism is that the social world exists externally, and that its properties can be measured through objective methods. The current research is conducted largely from the positivist's paradigm. It is systematic, controlled and empirical, and the variables and constructs that are investigated are all operationalist and measured quantitatively. Furthermore, the research involves testing of hypotheses on a relatively large sample of firms where theory plays an important part in providing a systematic view of the relations that are studied.

3.1 Pre-study

A pre-study was conducted in order to

investigate the small and medium scale business setting and to determine the relevant issues in selected key variable of the study. Seven interviews with the small and medium scale entrepreneurs and two interviews with the business consultants were organized. Two ready-made garment factory owners and one fabric painter were also interviewed. The pre-study particularly focused on the market orientation in their businesses. The researchers also had informal discussions with one of the directors of the small enterprise development division, Southern Province, One of the regional managers of the Sanasa Development Bank/ Southern province, and the Chairmen of the Chamber of Commerce/ Southern Province. Evidence from these interviews and informal discussions enriched the selected concept in the present study.

3.2 The Sample, Study Variables, Questionnaire Design and Data Collection

This study focuses on examining the key factors affecting on market orientation of small and medium scale ornamental fish farmers in Southern province, Sri Lanka. It was ensured to include respondents representing the entire province as well. Initially, 150 questionnaires were posted to randomly chosen small and medium scale ornamental fish farmers in the Southern Province Sri Lanka. However, only 20 respondents returned completed questionnaires. The response rate was very low (13%). Next, it was decided to contact

other small and medium scale entrepreneurs through telephone calls to get an appointment for personal interviews. Accordingly, another 130 respondents were contacted through telephone calls and 85 small and medium scale ornamental fish farmers agreed for interviews. However, only 100 questionnaires (out of 105 questionnaires) were usable to the survey as there were five incomplete questionnaires. A structured questionnaire was used in the study consisted of three parts i.e. background information of entrepreneurs, and market orientation. The data collection took place during November 2015 and December 2015.

The four study constructs of the study i.e. customer orientation, competitor orientation, inter functional coordination and social benefit orientation were operationalized as multi-item constructs. The variables of the customer orientation, competitor orientation and inter functional coordination were adopted from Narver and Slater (1990); Day and Wensley, (1988) and Langerak, et al. (2004). The variables of the social benefit orientation were adopted from Katz and Page (2010). Altogether twenty nine items (i.e., seven items for customer orientation, eight items for competitor orientation, seven items for inter functional coordination and seven items for social benefit orientation) were used to measure market orientation. All the variables were addressed by using a five point Likert Scale ranging from “1= strongly disagree” to “5= strongly agree”.

4. DATA ANALYSIS AND RESULTS

Exploratory Factor Analysis tested whether the hypothesized number of factors underlies the data. CFA provides overall goodness-of-fit tests of the match between the theoretical factor structure and the data (Kahn, 2006) and tests the appropriateness of a hypothesized model (Heeler et al, 1977). Maximum Likelihood (ML) method was used since it is the most popular method to find parameter estimates that if they were the true population values would maximize the likelihood that the observed covariance matrix was drawn from that population (Kahn, 2006).

Chi Square statistic (χ^2) with the ratio of chi-square to degrees of freedom (χ^2/df) was used to examine how close the observed variance-covariance matrix is to the estimated matrix of the proposed model. Comparative Fit Index (CFI), Normed Fit Index (NFI) and Tucker Lewis Index (TLI) were used to estimate the improvement in fit in the proposed model on the relationship between MO and EO on organizational performance. Parsimony of the model is examined with Root Mean Square Error of Approximation (RMSEA) index. The cutoff values close to 0.95 for TLI and CFI; cutoff value close to 0.06 for RMSEA can be used to conclude that there is a relatively good fit between hypothesized model and the observed data (Hu and Bentler 1999). Table 1 presents the measurements items and the results of the measurement model, including standardized factor loadings and composite

reliabilities..

The factor loadings of the latent variables are high and statistically significant.

4.1 Table: Confirmatory Factor

Constructs and indicators	Standardized factor loadings (t-value)	Composite reliability /AVE
<i>Customer orientation</i>		0.81/0.60
Our firm has insight into the buying process of customers.	0.65 (5.34)	
Our firm consults customers to improve the quality of service.	0.9 (13.74)	
We regularly measure customer satisfaction.	0.73 (5.98)	
<i>Competitor Orientation:</i>		0.94/0.85
Our firm knows whether customers buying from competitors are satisfied.	0.73 (6.61)	
Our firm monitors customers buying from competitors.	0.79 (13.37)	
Our firm knows why customers switch to competitors.	0.85 (14.12)	
<i>Inter Functional Coordination:</i>		0.90/0.87
Our firm's departments coordinate their	0.80 (8.18)	
	0.98	

standardized factor loadings and composite

contacts with customers.	(10.14)	
Resources are frequently shared by different departments.	0.54 (4.08)	
Our firm's departments coordinate their activities aimed at customers.		
<i>Social Benefit Orientation:</i>	0.83/0.59	
Our firm establishes policies by focusing social responsibilities.	0.85 (14.12)	
Our firm considers basic infrastructure facilities.	0.95 (50.05)	
Our firm thinks corporate social responsibility as an obligation.	0.60 (8.18)	

Analysis of Constructs

This Table 4.1 shows that the final confirmatory factor analysis (Measurement Model). After deleting items less loading values (criteria less than 0.5 suggested by Bagozzi and Yi, 1988) the fit of the respecified model improved to $X^2 = 431.67$ with degree of freedom = 10. Three different measures of internal consistency or reliability were computed and two are presented in table 3. First, all composite

reliabilities are .7 or higher, which indicates that internal consistency among the measures far above the recommended level of .60 (Bagozzi and Yi, 1988). Second, average variance extracted ranged from 0.59 to 0.87. Bagozzi and Yi (1988) suggested a target level is more than 0.50.

5. DISCUSSION AND CONCLUSION

The aim of this study was to investigate the key factors affecting on market orientation (MO) and to examine how the dimensions of these constructs are related with a small and medium scale ornamental fish famers. Furthermore, relevant literature was reviewed in a systematically and determined manner. A review of relevant literature gave conceptual and empirical support for emphasizing the market orientation and its antecedents in small and medium scale businesses. The review of market orientation gave compelling reasons for continuing the search for relevant literature in the marketing research field and market orientation research in particular. Since the exploratory work conducted prior to the study also pointed to the importance of being dedicated toward customers, competitors, inter functional coordination and social benefit orientation scholarly contributions on the market orientation became very interesting and led to the inclusion of market orientation in the research model. Furthermore, the review of the research literature on the market orientation made it evident that the innovation and

entrepreneurship research fields could provide valuable input to the research model for this research. An emphasis was put on empirical studies reported in the corporate entrepreneurship research field, and in particular studies aimed at clarifying the importance of factors in market orientation. Much theoretical, conceptual, as well as empirical support for including market orientation in a research model was found. Hence, the inclusion of market orientation in the research model was theoretically defended. The study suggests that ornamental fish farmers must have a clear vision of how market orientation can deliver a value and competitive advantage. This is largely supported in this research. The findings demonstrate that a sophisticated use of key factors of market orientation may pay off in better firm performance. This finding is probably related to the increase in managers' expectations over the past few years. Managers now expect accurate delivery commitments, complete visibility into their orders and transactions, as well as proactive, personalized, and convenient support (Oracle 2005). The raised expectations have created a competitive pressure and challenges for ornamental fish farmers. Furthermore, the present study provides insight to the contingent relationships between the entrepreneurial dimensions and firm performance in a ornamental fish environment. These results have important implications for managers of small and medium scale enterprises. Managers of such firms should adopt a

forward looking perspective as proactiveness leads to improved performance. However, they should be careful in engaging in novelty and experimentation resulting in new services or technological processes. Our findings also indicate that managers should be careful about making large and risky resource commitments.

6. LIMITATIONS AND FUTURE RESEARCH

The findings, conclusions, and implications of this research are bound by some important limitations. When interpreting parts of this study some caution is therefore needed. The study involves to some extent collection of retrospective data. As such, they may include more or less distorted views. This applies in particular to the perception-based variables. Since the data obtained in this study are not longitudinal, it precludes definitive causal claims. Due to its cross-sectional nature, this study is for instance unable to identify any lags which may occur between reaching a higher level of organization performance. A major limitation of this study is that it depends on single respondents. Consequently, the current research relies on the judgement of owners to measure key factors affecting on market orientation. The reliance of self reported data from single respondents introduces the risk of common method variance. In order to obviate this risk, the procedure suggested by Wiklund and Sheperd (2003), and also used by other

researchers with single respondents has been followed.

The findings in this study are furthermore derived only from a small and medium scale ornamental fish farmers sample. The validity of generalization to other types of businesses, such as retailing or services, or other contexts, such as national markets, is as such limited. Based on the research work reported in this thesis, several suggestions for future research can be made. While some of the suggestions are consequences of the research findings reported in this study, such as the need for further testing of the nomological validity of the scale in new samples and contexts, others act more as an extension of the research conducted.

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CHALLENGES AND OPPORTUNITIES ASSOCIATED WITH DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES IN JAFFNA DISTRICT

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ABSTRACT

With the globalization trend, Small and Medium Enterprises (SMEs) are in rapidly growing and developing arena. It has momentous influences on the prolific changes in all countries, and they are major contributor for inclusive economic growth, regional development, employment generation and poverty reduction in Sri Lanka. This research was conducted to diagnose the awesome challenges and opportunities of SMEs in the existing situation of Jaffna District. Further this paper reviewed the existing literature, empirical studies as well as the prevailing data bases in order to identify the challenges and opportunities for the development of SMEs in the Jaffna District. Researcher conducted qualitative exploratory research; explain the phenomenon of problematic situation of SMEs in Jaffna District. Purposive sampling technique was the sampling method, primary data collection method was used to collect the data, and structured interview was conducted with the 37 heads of community development institution in the Jaffna district. This study revealed that end of the war crafted peace environment in Sri Lanka, Many problems and challenges are faced by SMEs in Jaffna District in this post war situation, SMEs in Jaffna District are in the embryonic stage comparing with SMEs in other district in Sri Lanka and there are vast opportunities and unutilized resources for industrial expansions in this SME sector in Jaffna District. This industrial enlargement will create more market opportunities to the SMEs. The important implication of this study is that the SME sector is envisaged opportunities to contribute to transform lagging regions into emerging regions of prosperity.

Keywords: Challenges and opportunities, Development, Small and Medium Enterprises (SMEs)

1. INTRODUCTION

Small and Medium Enterprises (SMEs) are the prime business sectors in Sri Lanka. The Government of Sri Lanka recognizes SMEs

as the backbone of the economy, as it accounts for more than 75% of the total number of enterprises, provides 45% of the employment and contributes to 52% of the

Gross Domestic Production (GDP) (National policy Framework for SME Development, 2015). SMEs promote broad based equitable development and provide more opportunity for women and youth participation in the economic development of the country. There are believes that sustainable development can only be achieved by addressing issues of full and fair employment. SMEs are an essential source for employment opportunity. There are few mass industries and many SMEs in Jaffna District. Local war created huge unbelievable marks for the Jaffna District. SMEs in Jaffna District have been recovering from the war wounds. There are many efforts to reconstruct and rehabilitate the school, banks, roads, power and energy and other key infrastructure in Jaffna District. SME development must be complemented by job creation, growth and sustainability. SME development is gauged by the financial performance, market performance and employment. There is unutilized huge level of flora and fauna resources in Jaffna district, particularly the agriculture, fisheries, education, service, infrastructure, industry, animal husbandry, health care and tourism are the identified sectors for investment opportunities. SMEs have high opportunity to develop and at the same time they have to face big challenges to succeed and survive in the environment. This prevailing changing and challenging environment need to adopt the marketing strategies for the development of the SMEs. The poor attitudes and less innovative means of the SMEs are backlog

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in its improvement. This research try to identify the challenges from prevailing environment which are sustained by the SMEs and the major opportunities for growth of SMEs in Jaffna district.

2. SIGNIFICANCE OF THE STUDY

SMEs play a vital role for the blossoming development of the nation and they are significant forces in world economy. The composition of the European business landscape is that only 0.2% of all European businesses are large scale, 6.9% of European business are medium scale, 1.1% of European business are small scale and 91.8% of all EU businesses are micro scale (ESBA, 2011).

Poverty and employment are the persisting problems in those economies in developing countries. SME sector of Sri Lanka has not achieved desired level of contribution when compared with other developed and developing countries (Gamage, 2003). SME development in Sri Lanka is embarrassed by number of factors, in the research of Nishantha & Padmasiri (2010), the essential factors negatively affected the performance of small enterprises in a remote district of Sri Lanka. After the war huge displacement of people, damaged infrastructure, poor education and in-security prepared very low GDP contribution from Jaffna District. Even though in the Northern province (NP) 90% of business are under the SMEs sector, the contribution of GDP of NP is only 3.4 % in 2010, 3.7% in 2011 (CBSL, Press release,

2012), this is very lower level compared with the contribution of other provinces and huge level of graduates are unemployed in Jaffna district. There is rapid resettlement for displaced people. Infrastructure and other services has been provided to pick up life and move on. Even though rapid resettlement was focused and conducted, rural areas in Jaffna district are still struggling with basic infrastructure and all other essential facilities. The growth and expansion of SMEs in Jaffna district are constrained by problems emanating from product and factor markets and the regulatory system they operate in. Furthermore many challenges have been faced to develop the SMEs in Jaffna district. There are multi-faceted opportunities prevailing in the SME sector, they are to promote balanced regional development, improvement in the overall investment climate, foreign direct investment, creating a strong backward linkage between SMEs and agricultural sector. SMEs can be in progress with low investments, and more labor per unit of capital employed implying and promoting this sector offers huge employment opportunities.

3. RESEARCH GAP

Kapurubandara & Lawson (2006) presented a model for barriers to adoption of Information Communication Technology (ICT) and e-commerce for SMEs in Sri Lanka, collected from the available literature and the results of an exploratory pilot studies and subsequent survey. In addition to the

barriers facing SMEs, this research identified the relevant support required by SMEs in a developing country, Sri Lanka. Priyanath & Premaratne (2014) analyzed the activities of each SME development program being currently implemented by the Sri Lankan government, employing qualitative content analysis to understand whether they facilitate to access information and to select appropriate governance mechanism. The study recognized that SME development programs of Sri Lanka do not positively contribute to develop a favorable transaction environment for SMEs. Business Development Centre (SLBDC) to carry out a research study in 2002 on the opportunities and challenges faced by the Sri Lankan Small and Medium Size Enterprises (SMEs) in adapting e-commerce into their daily business routines.

Nishantha & Padmasiri (2010) examine the current role of SMEs in different industries, as well as understanding their contribution to the economy and identify the possibilities for promoting SMEs in the Sri Lanka. The paper goes further to review the existing literature, empirical studies as well as the prevailing data bases in order to identify the challenges and opportunities for the development of SMEs in the post conflict era. The study found that there is a vast opportunity for Sri Lanka to harness the opportunity by developing this vital sector. Gamage (2003) provide a brief overview of SME sector in Sri Lanka, and to make suggestion for enhancing the capacities of

SMEs for a sustainable development in Sri Lanka. Kirushanthi (2015) carried out to understand the main causes of the business failure of SMEs in Batticaloa district.

SMEs sustain major role all over the world. There are many researchers in worldwide regarding challenges and the development of the SMEs. SMEs have a big role in Sri Lanka. The first policy of ministry of industry and commerce is going to create enabling environment to the development of SME in Sri Lanka. After the local war, Jaffna district is recovering and growing steadily, SMEs in Jaffna District has been struggling with many problems and challenges. This research try to identify whether there is enabling environment or not for Development of SMEs by addressing the challenges faced by SMEs in Jaffna district. Further The SME Policy Framework will support start-up SME enterprises, strengthen the existing enterprises and extend nursing programmes for potentially viable sick SMEs. In Jaffna district, it is very important to diagnose the challenges and problems of start-up enterprises, existing enterprises, and sick enterprises. Very few researchers were involved in conducting research regarding SMEs covering all part of the country and very few researches were conducted regarding the SMEs in Jaffna District .Effects of internal and external factors are not studied for SMEs in Sri Lanka. Many countries have been diagnosing and evaluating the problematic situation and challenges in different

industries, but there is no one study available to diagnose challenges and problematic situation of SMEs in Jaffna district. Hence it is very important to study the challenging factors for SMEs developments and there is also need to study the opportunities for SMEs in Jaffna district. This study will focus to identify the major challenges from problematic environment and opportunities for SMEs in Jaffna district with the qualitative perspective.

4. LITERATURE REVIEW

4.1 Small and Medium Enterprises (SME's)

Collectively, micro-businesses, small businesses and medium sized firms are referred to as SMEs (SME: Back born of the Economy, 2003). SMEs are defined in a variety of ways by various countries using such parameters such as number of persons employed, amount of capital invested, amount of turnover or nature of the business, etc. According to the recent guidelines issued by the Central Bank of Sri Lanka, SME is defined as enterprises that have an annual turnover less than Rs 600 million and its borrowings below Rs 200 million (CBSL, 2012). The Sri Lanka Export Development Board (SLEDB) for export oriented enterprises, SMEs are defined as those enterprises with a capital investment excluding land and buildings of less than Rs 8 million or with annual export turnover of less than Rs 50 million (Gamage,2003).In the Sri Lankan context, the SME policy framework defines SMEs based on the

number of employees and annual turnover, it is displayed by the table 1.

4.2 Development of SME

SMEs play important role in any economy through generation of employments, contributing to the growth of GDP, Embarking on innovations and stimulating of other economic activities. This sector is said to be the backbone of all developed and developing nations. SMEs are often observed to have different organizational Goals/ effectiveness as profitability, sales, sales growth rate, market share, net profit, gross profit, cash flow, return on investment, product innovation, and process innovation (Irina, 2008). It is seen as a driver of change for inclusive economic growth, regional development, employment generation and poverty reduction. SME sector is envisaged to contribute to transform lagging regions into emerging regions of prosperity (National policy frame work for SME development, 2015)

4.3 Challenges for Development of SMEs

This SME Policy Framework will broadly set out the policy direction, the challenges to be addressed and the broad intervention strategies. The major policy intervention areas are identified into six core areas namely enabling environment, modern appropriate technology, entrepreneurial culture and skills development, access to finance, market facilitation and research and development. Also it is important to focus on

the regional balance and resource efficiency in developing SMEs (National policy frame work for SME development, 2015)

The challenges for the development of SMEs are financial capital, infrastructure, employment opportunity, greater utilization of machinery, equipment and raw materials and intellectual and skill employees, sub-contracting with formal and informal sectors (Gamage, 2003). In the external context, environmental regulation, government incentives for innovation and environmental actions, environmental protection, supply chain impacts their environmental strategic decisions and technological competence are also considered as challenges. They must be managed jointly and interactively between the barriers and drivers in the adoption of environmentally friendly practices and technologies. Internal factors that lead to eco-innovation management were also analyzed. In general, the support of the company's senior management, which becomes crucial for decision making in this field, the skills and capabilities of technological absorption of companies, which provide the necessary conditions for this adoption, the more its culture and features are so modified, with the internalization of environmental preservation. Furthermore, certain intervening variables were also considered, which may affect the organizations, such as the organization's size, age, origin of capital and market of operation (Maçaneiro & da Cunha, 2014).

The main problems that small and medium enterprises encounter, especially during the start-up phase, deal with the lack of financial resources and also with administrative barriers in terms of bureaucracy. The SMEs in developing countries fall behind with adoption due to barriers, both internal and external, prominent and inherent in a developing country as Cultural, Infrastructure, Political, Social, and Legal and Regulatory Barriers. Interpretation of preliminary internal barriers: such as the lack of skills required and the lack of awareness of any return on investment (Kapurubandara & Lawson, 2006)

5. RESEARCH QUESTION

SMEs have high opportunity to develop the business at the same time they face big challenges to succeed and survive in the environment.

1. What are the existing challenges faced by SME in Jaffna District?
2. What are the opportunities associated with the development of SMEs in Jaffna District?

6. RESEARCH OBJECTIVES

1. To identify the existing challenges for SMEs in Jaffna district
2. To find out the opportunities associated with development of SMEs in Jaffna district.

7. METHOD

This study was applied qualitative methodology. Qualitative research was concerned with developing explanations of social phenomena in this study. Researcher conducted exploratory research and used exploration of the existing certain phenomena. It analyzes the practices of existing and ideas to the future. This research describes the "subjective reality" of a system; it is the study of a phenomenon. The analysis of embodied lived experience for instance is rooted in phenomenology and phenomenologists forego coding of data all together. Researchers following the interpretive paradigm where the above listed sequential analyses techniques belong to even perceive coding as an abhorrent incompatible act for data analysis.

7.1 Sample

This study was conducted in Jaffna districts in Sri Lanka. The unit of analysis in this study is SME related officers of the government and non government institutions in the Jaffna District. Population is infinite for this study and comprises of all SME related officers in the Jaffna district. This research followed the purposive sampling method. The sampling units may be individuals or they may be in groups. Each member of sampling frame is called sampling unit. Each SME related officers were sampling units in this research. Sample was considered 37 different kind of SME related officers in Jaffna District and the subjects were presented in the annexure.

7.2 Instrument Development

Primary data collection method was utilized in this research. Data collection instrument was the semi structured interview method. Researcher utilized the ideas of previous research to develop the questions (Gamage, 2003; Perera & Wijesinha, 2011). It consisted of series of open ended questions and broad questions. The interview question was displayed with the annexure. Further secondary data was gathered from Journals, articles in newspapers, books, SMEs publication and reports, central bank reports and publications, and government organizations' data banks and publications.

8. DATA ANALYSIS

Researcher utilized NVivo software of QRS international. Interview was conducted using audio recording, then it was translated and transcribed. Initially the themes were pointed as observed or recorded. Then open code and axial coding were applied to code the data. The open coding is the researcher identification and then second order coding by using in-vivo called as first order coding. Then the axial coding was revealed the themes of second – order from first coding categories. The second order themes were revealed as emergent framework base on Corley and Gioia, 2004. There are table 5 displaying in-vivo codes and first order, second order and findings respectively in the annexure.

8.1 Reliability and validity

Researcher utilized NVivo (version 11) to

extract subjects' records, transcript and other related document. Proportional reduction in loss method was used to assess the reliability of coding scheme. The current study was 0.729, which is well above the 0.7 cut-off level recommended for exploratory research (Rust and Cooil, 1994).

The validity of this research was presented as five (Silverman and Marvasti, 2008). First the *respondent validation*, researcher shared the findings with the study subjects and discuss opinion of them regarding the interpretation and credibility of findings. Second *refutability* was disproved by having diverse subjects to collect the data. Third *constant comparison* was made by displaying the additional research and expanded data collection to validate emergent findings. Forth under the *comprehensive data treatment*, researcher examine the data again and again to draw the comprehensive suggestions and conclusions. The fifth *deviant-case* all interviews was recorded and translated properly without any deviant cases by using NVivo software to manage the data and findings properly.

9. RESULT AND DISCUSSION

In discussing the questions, subjects have given most valuable information of this study.

9.1 The interaction of institutions with SMEs in Jaffna District

Government and non- government institutions are providing the services for the SMEs in Jaffna district. Researcher has identified these services as three: Basic/ essential services, Development services and Assistances.

The *basic services* are registration of business, issuing environmental certificates and quality standard certificate and PHI (Protected Health Information) certificates and EPF & ETF services.

Development and supportive services are awareness workshops and programs regarding Labor rules and regulations, environmental regulations or greener product, quality standard products, new machinery and instrument purchase, technology transfer and value added to product. Further it includes export advices, financial literacy regarding loans, technology adaptation knowledge, budget and business planning, technical upgrading plan, ideas of technical expert regarding Material, machinery, technology, and product upgrading, structure and layout creation ideas and sustainable market ideas. They encourage to upgrade micro entrepreneur to small, small to medium, women and student participation in entrepreneurship.

Assistances which are offered for SMEs are market opportunities, e-commerce training and facilities, export link, professional training, field visit, research assistances,

attitude blast counselling, forums regarding financial, marketing and management development, fund assistances, business link-for supplier, producer and distributor and local, national, and international exhibition.

9.2 The most challenging SMEs and contributing SMEs in Sri Lanka

All micro, small and medium entrepreneurs are facing problems, but based on the business type the problem vary. All of the respondents have accepted that micro entrepreneurs are facing huge problems, only 60% of respondents have accepted that small entrepreneurs are also facing huge problems.

The 90% of respondents have accepted that both small entrepreneurs are the most important contributors for the nation, only 10% of respondents have accepted that only medium entrepreneurs are the most important for the nation.

9.3 Challenges for SMEs

9.3.1 Political and Legal Challenges

According to answer of the respondents political challenges are instability in SME policy over the period of time, poor legal literacy, labor low barriers regarding EPF and ETF, undefined wage level for employees, approval of patent copyright and quality standards in Jaffna district, poor compensation to displaced entrepreneur to restart or recover from post war situation, poor SME policy

implementation, restriction to get the loan, political vulnerability, no separate tax system to war affected Jaffna District, many procedure for registration of business, child labor law restriction and inadequate fund allocation and consideration for research and development sector by government. Further huge area of usable land is in the hand of government after the local war. There is high requirement to get quality standard as GMP (Goods manufacturing process), SLS (Sri Lanka Standard) and ISO (International standard organization). The Policies regarding the educational and professional qualifications for SME business are not defined well, this leads to unstandardized productions and services from SMEs.

9.3.2. Economic Challenges

The most of the entrepreneurs are facing financial difficulties. Further increasing inflation leads to high labor cost, raw material and other cost, high cost of production, low margin, increase in price, and decrease in demands for products. There is floating exchange rate, risk in foreign export income, foreign aids and donations. The entrepreneurs are poor financial literacy regarding loan utilizations and loan repayment, favorable loan scheme but in practice many documentary and guarantee requirements. There is very poor media assistance, high advertising cost, and Limited working capital to SME.

9.3.3. Sociocultural challenges

There is no gender based equality in salary

and also in type of works in SMEs. Males are dominant mostly as entrepreneur and women are assisting to them, very rare participation of women. Mobility to get raw material and market access are limited to women. Tamil & Muslims women are restricted to participate independently in SMEs. Most of the entrepreneurs have negative attitude regarding their growth and development, they are risk avoiders, easy earning expectation and not future perspective thinking.

Most of the SEMs are involving in traditional based production method and no any innovative or creative production method. Education to community in Jaffna district is in adequate level but career development opportunity is weak, so they can earn limited income and sustain restricted life style. Education, professional qualification and IT knowledge of Micro entrepreneur is very low. Media awareness, web, internet, networking knowledge is very poor to SME employees in Jaffna District. Workload for employees is high, high absenteeism and labor turnover are high.

9.3.4. Technological challenges

SMEs in Jaffna district are technology back, lack of innovated machinery, mostly manual based productions, poor quality, low amount, high cost, poor packaging and poor diversification in products. Most of SMEs have traditional based productions, and no Nano technology adoptions. Further they haven't upgraded technology, web based e-marketing, social network marketing system

and poor media support to convey the proper message to SMEs.

9.3.5. Green environmental challenges

The entrepreneurs in Jaffna district are struggling problems with environmental certification regarding air, emission, noise and vibration, waste water and solid waste, sea food quota system to fishery industry, environment balance, occupational safety and health, greener production inducement, organic productions and raw materia lexploitation. SMEs have to be certified under stringent food safety, quality management, environmental management, health and safety and social accountability standards. Moreover our processing factories are recognized among the finest water and carbon conscious facilities.

9.3.6. Competitive challenges

The entrepreneurs are in problematic competitive situation, because the SMEs in Jaffna district are in embryonic stage, manual productions, having poor quality, finishing and packaging ,poor diversification of products, low output, no efficient and effective productions, no economies of scale, low consumer switching cost, only short term market success, questionable survival, poor research and development, high energy cost, no any market research to identify the consumers' needs, wants, styles and new trends properly, internally inadequate strength, risk avoiding manner of entrepreneur, no innovated technology adoption and poor media awareness and reach. SMEs are in weak

position to compete locally, nationally and internationally.

The consumers are not knowledgeable and poor health conscious to consume healthy, organic and greener products. Then there is poor advertising, promotional tools and poor media availability to the products, this leads to failure of business.

9.6 Opportunities to develop the SMEs in Jaffna District

Researcher conceptualized these opportunities as five different prospects: a) Human resource, b) adequate demand and inadequate supply, c) adequate demand, and not quality products and d)tourism attractiveness e)under exploited resources

Huge Human resource, and high entrepreneur ship skills are available in Jaffna district. There is adequate demand and inadequate supply such as fruits, palmyrah fiber, coconut fiber and ships, sweet toddy, milk, gee, curd, Chess, mango, sea food, sea leech, crab, sea weeds, leather product, grapes, wine, plums, mash rooms, aleovera, cucumber, big size peanut, Water pump productions and gherkins.

There is adequate demand but not quality products by proper value additions as coffee, yogurt, milk based panner, grapes, wine, plums, coconut flour, desiccated coconut, creamed coconut and coconut sugar, pineapple, mango, papaya and banana either in cans/jars or in a dehydrated manner. There is attractive and potential locations, beaches and marine land for tourism in Delft and

other sea shores.

Unexplored or under exploited resources are palmyrah based tooth paste and jelly, seedless big grapes, jumbo peanut, Banana bubble gum, sunflower, neem oil, medicinal plants, floriculture industry, bio-fertilizer and bio-pesticides industries.

9.7 Suggestions to face the challenges

The remarkable and valuable participants related to SMEs gave some suggestion regarding the improvement by the following way. Government must allocate more money from treasury to develop SMEs to create huge research and development center to conduct research on existing resource utilization. Government must encourage every educated people to get involve in entrepreneurship by offering tax free or tax reduction, interest rate reduction, and subsidiary assistances for involving in entrepreneurship. Now in Sri Lanka, anyone can begin and involve in desired production or services anytime, but in foreign countries, anyone can't involve in entrepreneurship without adequate educational and professional qualification, it is very important standardize the educational and/or professional qualification to involve in SMEs. Now there is no government institutions to check the quality standards, offer the patent and copyright in Jaffna district, it is very important to bring the facilities to Jaffna district. Science and technology officers are assigned to DS officers to offer scientific and technological assistances for entrepreneurs, but only

few staffs are assigned to Jaffna district at the same time, government fails to offer adequate resources and training to them, other foreign countries are spending more money on these research and development. Internet facilities in Jaffna district is very poor, so government must offer high quality network facility to Jaffna district to have proper communication and-commerce adaptation for SMEs. In Jaffna district SMEs have adequate print media and one telecasting media, but these Medias have only small participation for SMEs, so it is very important to create high participative broadcast, print, and telecast of Medias to SMEs growth and development in Jaffna district. Further collaborative work of government, nongovernmental organizations, University and entrepreneur, partnerships with the private sector for SME development is very essential in Jaffna district. The involvement of undergraduate and postgraduate students in SME related research is essential in Jaffna district. Creating entrepreneurship as a specialized degree in Universities will be the big responsible to government by offering assistances to bring the student as an entrepreneur. The high value addition to the SME product to capture the local, national and export market is very essential. Facilitators must create awareness about new pattern, attractive designs, verified quality and modern style by having field trips and showing international products. Furthermore facilitators must offer financial literacy and technology upgrading literacy to change the attitude of entrepreneurs.

Government or NGOs or international companies can sponsor prospective industry, develop proper working and production environment in Jaffna district. All provincial ministers and all other politicians involve to improve the SMEs in Jaffna district. Facilitators encourage the eco-friendly product and award to best producer in every type of industry and create recognition and high popularity to the quality product through all Media; encourage to produce organic product.

10. CONCLUSION AND RECOMMENDATION

Present study identified three interactions of government and non-government with the SMEs in Jaffna district such as basic services, development services and assistances. Further the study revealed that micro entrepreneurs are facing huge problems and challenges and small entrepreneurs are contributing highly for the nation in Jaffna district. The challenges are dimensioned as political and legal, economical, socio cultural, technological, environmental and competitive factors. Subjects revealed the five different prospects as opportunities, they are human resource, adequate demand but inadequate supply, adequate demand but not quality products and Tourism attractiveness.

Even though there are huge level of unutilized, and underutilized resources in Jaffna district, positive policy making by the government to develop SMEs in

Sri Lanka, adequate level direct and supportive services of government bodies, some financial grant assistance from government and NGOs, SMEs business are still problematic, struggling and embryonic stage. Researcher identified the reasons and problems root for the SMEs and some solutions which was suggested by the subjects. In addition to this, the remarkable solutions were also recommended by the researcher.

Last 30 years people in Jaffna district sustained unforgettable wounds by local war, it is very hard to pull up and bring them to a smooth successive level. With their bad experience, all entrepreneur can only think about short term, they can't think about long term and sustainability. First they want to realize that they are in safety and good prospected environment, it is very important to create self-confidence, positive attitude and challenging and risk taking habits. Then only they will involve successfully in their production or business. That is a big bridge building programs. Government must allocate more money to science and technology and research and development. Further collaborative work of government, non government, university and entrepreneurs are very important to the

long term sustainable development of SMEs. Furthermore standardization of educational or professional qualification and wage or salary level to employees creates more strength concrete to the development of SMEs. Now a days Media is power full tool to convey the information to public, hence print Medias must plan to allocate reasonable page and telecast and broadcast media must allocate a particular time to convey the information regarding the SMEs. Infrastructure development like information technology, harbor, airport and low cost energy energize smooth operations and supply chain to the SMEs. All these awesome suggestions for the SME sector are envisaged the opportunities to contribute for transforming lagging regions into emerging regions of prosperity.

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Table 1: Defining SMEs in Sri Lanka

Size Sector	Criteria	Medium	Small	Micro
Manufacturing Sector	Annual Turnover	Rs. Mn. 251 - 750	Rs. Mn. 16 - 250	Less than Rs. Mn. 15
	No of employees	51-300	11-50	Less than 10
Service Sector	Annual Turnover	Rs. Mn. 251 - 750	Rs. Mn. 16 - 250	Less than Rs. Mn.
	No. of Employees	51 - 200	11 - 50	Less than 10

Source: National policy frame work for SME development, 2015

Table 2: Subjects of the research



Institution of Respondents	No officers
IDB – industrial development Board	1
CB- Regional Manager	1
Chief Executive Officer- Chamber of Commerce	1
UNDP	1
Department of Industry	1
Export development Board	1
NECTA- Assistant Director	1
NEDA- Provincial Director	1
GIZ	1
ILO	1
DS	8
Export development Board officer	5
NEDA officer	5
Rural economic affairs	3
Euro will	1
Environmental officer	1
Vocational training authority officer	1
Incubation cell-faculty staff	1
University business Linkage	1
Science and Technology Officer	1

Table 3: Research interview questions

Interview question
Q1. Are you dealing with SME, If yes in which way?
Q2. Which type of SME is the most important for the nation; Small, medium or micro?
Q3. Which type of entrepreneur are facing huge problems, Small, medium or micro?
Q4.what are the challenges faced by SMEs in Jaffna district

Q5. Can you give any solution or support to solve the problems, If yes, what are they?

Q6. Are there any opportunities to develop the SMEs (industry) in Jaffna district? If yes, What are they?

Table 4: in-vivo codes, first- order categories and second order themes

In vivo codes	First order categories	Second order theme	Interactions
Registration of business Issuing environmental certificates and quality standard certificate PHI certificates and EPF & ETF services.	Essential services	Authorized services	Basic services
Awareness workshops and programs regarding Labor rules and regulations, environmental regulations or greener product, quality standard products, new machinery and instrument purchase, technology transfer and value added to product.	Progressive ideas and knowledge	Sustainable ideas and knowledge	Development services
Export advices, financial literacy regarding loans, technology adaptation knowledge, budget and business planning, technical upgrading plan, ideas of technical expert regarding material, machinery, technology, and product			

<p>upgrading, structure and layout creation ideas and sustainable market ideas.</p> <p>Encourage to upgrade micro entrepreneur to small, small to medium, women and student participation in entrepreneurship.</p>			
<p>Market opportunities, e-commerce training and facilities, export link, professional training, field visit, research assistances, attitude blast <u>counselling</u>, forums regarding financial, fund assistances, business link-for supplier, producer and distributor and local, national, and international exhibition.</p>	<p>Practical help</p>	<p>Tangible effort</p>	<p>Assistances</p>

THE IMPACT OF POWER, BENEFITS, AND RISK REDUCTION ON THE PERFORMANCE OF SUPPLY CHAIN OF SRI LANKAN APPAREL AND FOOD & BEVERAGES INDUSTRIES

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ABSTRACT

Supply chain performance (SCP) can be determined through many factors such as technical factors and relationship factors. The relationship factors mainly focus on the supply chain linkages (SCLs) created with the upstream and downstream supply chain partners. Therefore, the SCLs such as Power, Benefits, and Risk Reduction are important to any industry to enhance their SCP. This paper examines the level of impact of the Power, Benefits, and Risk Reduction on the SCP. The SCLs and the SCP are analyzed and compared using two types of industries as Apparel (AI), and Food & Beverages (F&BI) that established in Free Trade Zones in Western Province Sri Lanka. A total of 138 Managers in the fields of Supply Chain (SC) related activities were surveyed (88-AI, 50- F&BI) through a self-administrative questionnaire. Risk Reduction and Power together demonstrate a significant influence on the SCP in manufacturing sector in Sri Lanka. Further, 'Industry type' moderates the relationships of Power to SCP and Risk Reduction to SCP but not the Benefits to SCP. In F&BI, the Power, Benefits, and Risk Reduction demonstrate significant (5% level) relationships with SCP but, the Power is not showing significant (5% level) relationship with SCP in AI. In F&BI, Risk Reduction and Benefits together demonstrate significant influence on SCP. But in AI, Benefits with the Power demonstrate significant influence on SCP. AI shows higher level of SCP than the F&BI, when the same level of Power and Risk Reduction apply to their own Supply Chain.

Key Words: Supply chain performance, Supply chain management, Supply chain linkages

1. INTRODUCTION

Increase the effectiveness of an organization is an important point to be addressed. In today's world, Supply Chain Management (SCM) can be identified as one of the main strategies used to improve effectiveness of manufacturing and service organizations. Lee, Kwon, and Severance (2007) mentioned SCM as an integrated management tool used to enhance the quality, lower the cost, and satisfy the ultimate customer. SCM helps information, materials, and services to flow effectively, through different facilities to the stakeholders of the organization. Proliferation in product lines, shorter product life cycles, higher level of outsourcing, shift in power structure in the chain, and globalization of manufacturing are trends that made SCM a critical success factor in most industries (shah, 2009, p. 10-12).

Further, to enhance the effectiveness of an organization, the authorities pay attention on better realization of organizational goals, such as, enhanced competitiveness, better customer care and increase profitability of the organization (Gunasekaran, Patel, & Tirtiroglu, 2001).

Several studies discuss Supply Chain Performances (SCP) as a measure related to competitiveness, customer care, and profitability of the organization. Having ultimate customer satisfaction as an indicator, initially large number of scholars

measure the SCP based on technological factors such as, explaining Enterprise Resource Planning systems (Zong, 2008), Radio frequency identification (Lee, Cheng, & Leung, 2009) and etc.

measure the SCP based on technological factors such as, explaining Enterprise Resource Planning systems (Zong, 2008), Radio frequency identification (Lee, Cheng, & Leung, 2009) and etc.

In today's era, it is not only the technological integrations that improve the efficiency and effectiveness of a Supply Chain, but rather the integrated long term relationships with the members of Supply Chain play a critical role in handling Supply chain performance (Lee *et al.*, 2007; Singh & Power, 2009; Whitten, Green, & Zelbst, 2012; Zelbst, Green, Sower, & Reyes, 2009).

Supply chain performance (SCP) can be determined through many factors such as, technical factors and relationship factors. The relationship factors mainly focus on the Supply chain linkages (SCLs) created with the upstream and downstream Supply Chain partners. The SCP can also be varied due to the social exchange context by way of exchanging the relationships prevailing amongst Supply Chain network partners.

Therefore, the current study mainly pay attention on the Supply Chain Linkage (SCL) build on Power, Benefits and Risk Reduction as the ways of exchange relationships (Zelbst *et al.*, 2009). Singh and

Power (2009), described that the collaboration with customers is more directly related to the performance outcomes measured. Therefore, the performance measurement of this study defined as the ability to satisfy ultimate customer, in terms of both quality and cost (Zelbst *et al.*, 2009). ability to satisfy ultimate customer, in terms of both quality and cost (Zelbst *et al.*, 2009).

2. BACKGROUND

To control the inventory by managing the flow of materials will be the primary purpose of the Supply Chain design. In general, a manufacturer spends more than 60% of his total earnings to purchase services and materials necessary for his industry (Krajewski, Ritzman, Malhotra, & Srivastav, 2011, p. 326).

“Supply chain linkages” of an organization refers to explicit and/or implicit connections with the Supply Chain critical entities of the organization. These relationships can comprise of power to manage the flow and quality of the inputs received from suppliers and the outputs received to the customers (Rungtusanatham, Salvador, Forza, & Choi, 2003). There are few noteworthy case studies that highlight the importance of the relationship between the organization and the suppliers and customers (Singh & Power, 2009). The case studies of high profile organizations such as Dell (Magretta, 1998) and HP (Lee & Billington, 1995) highlight the importance of having close collaborative arrangements with their trading partners.

Okongwu, Brulhart, and Moncef (2015) explained, SCLs as information sharing, supplier partnership and customer relationship. Rungtusanatham *et al.* (2003) mentioned SCLs as a resource and as a resource acquisition capability. Lee *et al.* (2007) analysed the SCLs of supplier, internal integration, and customer with SCP of the organization.

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Well-defined SCL is a key determinant to improve the SCP and reliability across a wide range of industries (Lee *et al.*, 2007). Therefore, the SCL and the SCP can be defined as an interrelated connection.

Gunasekaran *et al.* (2001) studied that the performance measurements not only consider the cost of activities, but also its impact on other functions such as, customer service, asset utilization, productivity and quality. Therefore, SCLs will improve the Supply Chain efficiency and effectiveness. Ultimately, the customer will be satisfied with the reduced cost and improved quality.

This study will expose the Supply chain linkages based on social factors such as, Power (Burke, 1997; Cook & Whitmeyer, 1992), Benefits (Rungtusanatham *et al.*, 2003; Zelbst *et al.*, 2009) and Risk Reduction (Cucchiella & Gastaldi, 2006; Vilko, Rital, & Edelmann, 2014). Further,

this discusses the impact of the said linkage factors on the SCP which leads to satisfy the ultimate customer.

3. RESEARCH PROBLEM

The Free Trade Zones (FTZ) which is managed by the Board of Investments, Sri Lanka, (BOI) have excellent level of infrastructure facilities for foreign and local industries. Within these Zones (familiar as BOI Zones), the infrastructure facilities, tax benefits, labour accessibility, lodging facilities for employees, 24 hour Import/Export facilities, and security facilities are in excellent level. All the manufacturing organizations within these Zones enjoy the same benefits, the Annual Industry Survey, 2013 (AIS, 2013) highlights the differences of the performance in different industries.

According to Lee *et al.* (2007) and Selldin and Olhager (2007), nature of the industry can be a significant factor for different levels of performance of SC. Is it the only reason to vary the SCP of manufacturing organizations in BOI Zones? It can be suspected that there can be various factors affecting on SCP other than these facilities and industry type.

SCP can be high or low due to the behaviours of technical activities and social activities of the organization (Lee *et al.*, 2007; Singh & Power, 2009; Whitten *et al.*, 2012; Zong, 2008). Therefore, the current study will pay its attention on how the SCLs influence to

change of the SCP of an organization.

4. OBJECTIVES OF THE STUDY

The main objective of this study is to assess the extent to which the SCLs such as Power, Benefits, and Risk Reduction will predict the SCP of manufacturing organizations in BOI Zones in Sri Lanka. Further, it discusses the relationship between the said SCLs and the SCP, moderating effect of the type of the industry, and a comparison of the ratings given by the Managers for the SCLs and the SCP of their own organization.

industry, and a comparison of the ratings given by the Managers for the SCLs and the SCP of their own organization.

5. LITERATURE REVIEW

This section discuss about a Supply Chain, Supply Chain Linkages, and the Supply Chain Performance respectively. Supply Chain Linkages discuss under three categories i.e. Power, Benefits and Risk reduction.

5.1 A Supply Chain

A Supply Chain comprises all the activities associated with the flow and transformation of goods from the raw materials stage, through to the end user, as well as the associated information flows (Handfield & Nichols, 2002, p. 8). Further, cooperative organizational relationships that provide high value for the integrated parties are essential for an effectiveness of a Supply Chain. The disadvantages such as, high operational costs, inefficiency, and demand

uncertainty of a Supply Chain can be reduced by having strong long term alliances with Supply Chain partners (Fawcett, Magnan, and McCarter, 2008).

Build trust and high degree of mutual obligation between exchange parties would be beneficial for organisational relationships (Gakovic & Tetrick, 2003; Shore, Bommer, Rao, & Seo, 2009; Wang, Tsui, Zhang, & Ma, 2003; Zineldin & Jonsson, 2000).

The Social Exchange theory explains, the “behaviour (profit)” of any person /organization is as the difference of the “rewards of interaction” and the “cost of interaction” (Cropanzano & Mitchell, 2005). It is also mentioned that the resource exchange and social exchange are interrelated. (Cook & Whitmeyer, 1992; Olkkonen, Tikkanen, & Alajoutsijarvi, 2000; Pels, 1999). These interrelated relationships or networks build among individual(s) or corporate actors such as, buyers and suppliers (Markovsky, Skvoretz, Willer, Lovaglia, & Erger, 1993; Zelbst *et al.*, 2009).

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buyers and suppliers (Markovsky, Skvoretz, Willer, Lovaglia, & Erger, 1993; Zelbst *et al.*, 2009).

The ability to meet the demands made by an actor in a network creates closer relationship among suppliers and buyers (Anderson, Hakansson, & Johanson, 1994; Awuah, 2001; Chandra & Kumar, 2001; Sahay, 2003).

5.2 Power

Social exchange networks as discussed earlier, linked with the Power of the organization. Power is concerned as one's ability to influence on others (Farrell & Schroder, 1999). The degree to which buyer can influence on the supplier depend on the power/dependency structure of the relationships. More powerful actors influence and control the behaviours and exchanges in buyer-supplier relationships (Habib, Bastl, & Pilbeam, 2015; Hoejmoose, Grosvold, & Millington, 2013).

Hence, the Power can create negative or positive impact for the Supply chain performance (Awuah, 2001; Burke, 1997; Cook & Whitmeyer, 1992; Walker *et al.*, 2000; Zelbst *et al.*, 2009). It is essential to understand the Power structures that exist in a Supply Chain strategically, and operationally manage the said Supply Chain (Cox, 1999; Hoejmoose *et al.*, 2013).

performance (Awuah, 2001; Burke, 1997; Cook & Whitmeyer, 1992; Walker *et al.*, 2000; Zelbst *et al.*, 2009). It is essential to

understand the Power structures that exist in a Supply Chain strategically, and operationally manage the said Supply Chain (Cox, 1999; Hojmosse *et al.*, 2013).

The main point to understand is how to retain the Power and use it effectively to influence and control others in the Supply Chain (Cox, 1999; Sorensen, 2009).

5.3 Benefits

Benefits on the other hand, imply an exchange relationship based on gains or advantages (Cook & Whitmeyer, 1992; Zelbst *et al.*, 2009). The Supply Chain efficiency as a Benefit helps to reduce the existing and potential performance gaps (shah, 2009, p. 25). The opportunities to acquire knowledge by linking the organization to its suppliers or to the buyers can also be identified as a Benefit for the organization (Chua, 2003; Rungtusanatham *et al.*, 2003).

According to Lin (2007), innovative ideas, processes, products or services are also be Benefits for an organization. Since the knowledge sharing and innovations facilitate to achieve desired outcomes, it is not unfair to treat them as Benefits to the organization (Hallen & Johanson, 2004; Han & Anantatmula, 2007; Jantunen, 2005; Lin, 2007, Neill & Adya, 2007; Tohidinia & Mosakhani, 2010).

Standardization, as a Benefit emphasize on advancement in transportation and communication technologies which

facilitate the homogenization of consumer tastes and need patterns which positively influence the firm's performance (Donnell & Jeong, 2000).

The current study pay attention on the knowledge sharing, innovations, efficiency and standards of the suppliers and the buyers as Benefits that influence on the SCP of the organization.

5.4 Risk Reduction

Zelbst *et al.* (2009) suggested that the scarcity of resources create a Risk, and organizations become members of a Supply Chain to reduce this Risk. The quality and the competitiveness of an organizations' operations depend on their ability to identify and mitigate the uncertainties and Risks they encounter (Matook, Lasch, & Tamaschke, 2009; Vilko *et al.*, 2014). Hence, the Reduction of Risk is another important linkage factor that influence on overall Supply Chain Performance.

Supply Chain risks can be divided in to two parts, based on its source such as, demander's risk and supplier's risk (Lockamy III & McCormack, 2012). Demander's risk will be resulting from the disruptions emerging from the downstream Supply Chain. Supplier's side risks are the disruptions occurred from the upstream Supply Chain include the purchasing, supplier activities, and supplier relationships. supplier activities, and supplier relationships.

There can be non financial consequences, which leads to a Risk. Supply Chain disruptions, such as, reduction in product quality, damages to property, lost reputation among the Supply Chain partners, and delivery delays (Cousins, Lamming, & Bowen, 2004) can be some of those.

Perry and Sohal (2001) and Salvador, Forza, Rungtusanatham, and Choi (2001) discussed facts related to timely performance with the intention of reducing the risk of occurrence of delays and improve the Supply Chain Performance.

5.5 Supply Chain Performance

Well integrated Supply Chain is one of the primary business strategies that apply to improve the SCP of the organization. The ability of Supply Chain partners to focus on ultimate customer and to respond the changes in demand, will lead for a better SCP (Whitten *et al.*, 2012).

Beamon (1999) and Singh and Power (2009) expressed that the strong, deep, meaningful and long term engagements with buyers and suppliers produce performance improvements. Such effective and efficient Supply Chain integration will ultimately satisfy the customer (buyer), both in terms of low price and high quality.

Hence, most of the studies in SCM measured the SCP by measuring each linkage based on the ability to satisfy the ultimate customer

(Lee *et al.*, 2007; Zelbst *et al.*, 2009). the ability to satisfy the ultimate customer (Lee *et al.*, 2007; Zelbst *et al.*, 2009).

6. METHODOLOGY

6.1 Conceptual framework

According to the figure 6.1, the conceptual framework of the study has developed based on the literature related to SCP, SCLs and SCM. *Power* (Burke, 1997; Cook & Whitmeyer, 1992; Walker *et al.*, 2000; Zelbst *et al.*, 2009), *Benefits* (Han & Anantatmula, 2007; Tohidinia & Mosakhani, 2010) and *Risk Reduction* (Cucchiella & Gastaldi, 2006; Matook *et al.*, 2009; Vilko *et al.*, 2014) were the SCLs considered in this study.

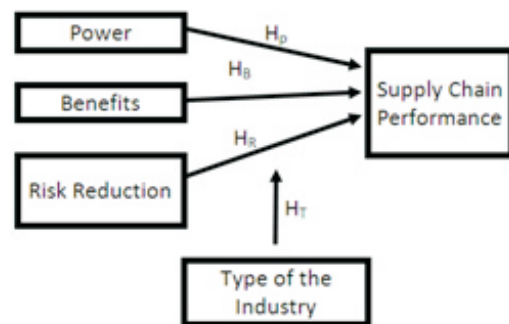


Figure 6.1: Conceptual framework

Source: Survey data

SCP depends on various factors, including these SCLs (Gunasekaran *et al.*, 2001; Lee *et al.*, 2007; Singh & Power, 2009; Whitten *et al.*, 2012; Zelbst *et al.*, 2009). The SCP can be varied as well, due to the type of the product (or the industry) (Selldin & Olhager, 2007). The current study, is similar to the

study done by Zelbst *et al.* (2009), but the industry types and the study design is different. This study focus on the impact of Power, Benefits, and Risk Reduction (independent variables), on the Supply chain performance (dependent variable) of an organization.

industry types and the study design is different. This study focus on the impact of Power, Benefits, and Risk Reduction (independent variables), on the Supply chain performance (dependent variable) of an organization.

6.2 Hypotheses of the study

There are four main hypotheses tested with the collected data. Three of them used to test the significance of the three relationships between SC linkages and the SCP. Fourth hypothesis H_T , tested the moderating effect of the “type of the industry”.

H_p : Higher the ability to control the activities of suppliers, buyers, and competitors, the SCP of the organization will be higher.

H_b : Higher the level of receiving/ giving Benefits from/ to the suppliers and the buyers, the SCP of the organization will be higher.

H_r : Higher the ability to control the Risks, the Supply chain performance will be higher.

H_T : The type of the industry moderates the relationship of SC linkages to SCP of the organization.

6.3 Population and the Sample

The target population of the study is the Apparel Industry (AI) and Food &

Beverages Industry (F&BI) in BOI Zones in Western Province, Sri Lanka. BOI Zones facilitated with the boarding facilities for the labourers and the companies can obtain tax grant while performing their operations within the BOI Zones.

There are seven BOI Zones within the Western Province. The largest two Zones in Sri Lanka named Katunayaka and Biyagama are also located in the Western Province. Therefore the selected area for the study is the Western Province BOI Zones. The Area Sampling technique which helps to limit the geographical area of a survey was used to define the area of the current survey. This helps to ensure the quality of the data gathered with the limited time and resources. Out of the seven Zones in the Western Province, four Zones named Katunayaka, Biyagama, Wathupitiwala and Horana were selected at random. The organizations within the Zones were also selected at random. These Zones are facilitated with same infrastructure facilities even though the different organisations located there demonstrate different performances (AIS, 2013). Respondents are the senior level Managers who are working for the selected organizations and are involved in the fields of operations, supply chain, logistics, procurement, warehouse, materials management, production and transportation. The sample consists of 88 managerial employees from the AI and 50 managerial employees from the F&BI within the selected BOI Zones.

6.4 Design of the study

The current study designed as a cross sectional sample survey. Data collection was carried out by using self-administrative questionnaire that were given to the Senior Managers of the selected organizations.

6.5 Data Collection and the Tool

The questionnaire consists of the items related to the four concepts of the study, such as, Power, Benefits, Risk Reduction and SCP. Power, Benefits, and Risk Reduction measurement scales were developed based on the studies of Cook and Whitmeyer (1992); Lee *et al.* (2007); Tohidinia and Mosakhani (2010); Vilko *et al.* (2014); Walker *et al.* (2000); Zelbst *et al.* (2009). The existing measurement scales were amended appropriately to present a better clarification for the items in the questionnaire.

The questionnaire comprises of two parts. The first part includes the demographic data and few organizational statistics, like number of employees, suppliers, and monthly output in units.

Second part of the questionnaire focuses on the existing level of SCL and the organizational Supply chain performance. Five point Likert scale had been used to identify the level of agreement with the Supply chain linkage statements and the Supply chain performance. Respondents were informed to rate the items on five point scale ranging from 1(strongly disagree) to 5(strongly agree). Further, a sixth point (not applicable) is added to the scale to rate each of the items.

The measurement scales utilized for this study are; Power (4 items), Benefits (8 items), Risk reduction (8 items) and Supply chain performance (16 items). The total measurement scales (total items) are used to gather data in relation to the level of Supply chain linkages and the Supply chain performance.

gather data in relation to the level of Supply chain linkages and the Supply chain performance.

6.7 Methods of Data Analysis

The internal consistency and reliability of five point Likert scale measurements on level of Supply chain linkage and the Supply chain performance were measured using Cronbach's Alpha coefficient.

The composition of the sample is outlined through the demographic factors; gender, age, job position, experience and the level of education. The statistics provide the basic idea of the characteristics of the population. The relationship between the SCL and the SCP are measured using the Spearman's correlation coefficient analysis.

Multiple linear regression analysis was used to identify the impact of the independent variables (Power, Benefits and Risk Reduction) on the SCP.

7. ANALYSIS AND FINDINGS

7.1 Reliability and Validity

Validity is the content to which an instrument (questionnaire/ survey/ test) measures, what it is supposed to measure and perform, as it is designed to perform.

Validation involves collecting and analysing data to assess the accuracy of an instrument.

The measurement scales of this study were developed from the existing literature (Zelbst *et al.*, 2009). Some of the measurement scales were revised and changed by considering the sample in order to furnish a clear understanding about what it is going to measure changed by considering the sample in order to furnish a clear understanding about what it is going to measure.

Reliability can be thought as internal consistency of a measuring tool. Internal consistency reliability means the consistency of results across items. Cronbach's Alpha coefficient is used to measure the internal consistency and the reliability of the items. The alpha values greater than or equal to 0.70 indicate a sufficient reliability (Gliem & Gliem, 2003; Nunnally & Bernstein, 1994, p. 265). The table 7.1 illustrates the Cronbach's Alpha values of the constructs used in this study. These values justify relatively high internal consistency of these constructs.

Table 7.1: Reliability Statistics

	P-Value	Mean of F&BI	Mean of AI
Power	0.305	4.189	3.994
Benefits	0.038*	4.133	3.912
Risk R	0.960	3.929	4.055
SCP	0.000**	3.594	4.231

** . Significant at the 0.01 level.

* . Significant at the 0.05 level.

Grouping Variable: Industry type

Source: Survey data. Sample size=138

The study sample contains 64% of AI and 36% of F&BI organizations. Out of the AI organizations, 72% comprise of a workforce of 101-500 and 21% are above 500 employees. All F&BI organizations comprise a workforce of 101-500. All F&BI organizations are handling 50 or less suppliers but nearly 18% AI organizations are handling more than 50 suppliers. Further there are nearly 10% AI organizations handling more than 150 suppliers which creates huge difficulty to maintain the quality and performances.

suppliers but nearly 18% AI organizations are handling more than 50 suppliers. Further there are nearly 10% AI organizations handling more than 150 suppliers which creates huge difficulty to maintain the quality and performances.

Majority of the Managers of the manufacturing sector in Sri Lanka are males (69%) and there are only 31% female Managers in the field. According to their managerial responsibilities, they are Operations Managers (12%), Supply Chain Managers (12%), Inventory Control/ Warehouse Managers (12%), Production Managers (12%), Transport Managers (11%), Procurement Managers (9%), Logistic Managers (8%), and Managers of various other categories (24%) related to the SC.

Majority of the Managers (56%) in F&BI are Diploma holders in their specific field and there are 42% graduates. AI is academically

far better than the F&BI, as there are 68% graduates and 24% post graduate qualified Managers.

Most of the Managers (73%) possess more than six years overall working experience and the others also have working experience between 4-6 years.

47.1% Managers have experience in their current position above six years and only 2% of the Managers are with less than one year experience.

Table 7.2: Results of the Mann-Whitney

SC linkages	Spearman's rho coefficient		
	F&BI (49)	AI (88)	All (137)
Power	0.565**	0.07	0.123
Benefits	-0.333*	0.601**	0.193*
Risk R	0.356*	0.57**	0.569**

** . Significant at the 0.01 level.

* . Significant at the 0.05 level.

Source: Survey data

The ratings given for the four factors in the study by the Managers of these two industries were compared. Table 7.2 illustrates the results of the Mean Comparison test that compare the means of SCLs and SCP between two types of industries. Average ratings given for Benefits and SCP are significantly different in two industries. Average rating for Benefits is higher in F&BI and the SCP ratings are higher in AI. Results of the test do not provide any statistical significance for the differences in Power and Risk Reduction.

Correlation analysis was used to test the strength and the significance of the relationships of SCL factors with the SCP of these two industries. Since the variables are not normally distributed, the spearman's Correlation Coefficient was used instead of Pearson's Correlation. The Spearman's Rank Order Correlation Coefficient is a nonparametric measure of the strength and direction of the relationship that exists between the two variables.

Table 7.3: Correlation with SCP

SC linkages	Spearman's rho coefficient		
	F&BI (49)	AI (88)	All (137)
Power	0.565**	0.07	0.123
Benefits	-0.333*	0.601**	0.193*
Risk R	0.356*	0.57**	0.569**

** . Significant at the 0.01 level.

* . Significant at the 0.05 level.

Source: Survey data

According to the table 7.3, Power and Risk Reduction are demonstrating a significant positive relationships with SCP of the F&BI. The Benefits demonstrate significant but negative relationship with SCP. In AI, Power is not showing significant relationship with SCP, but other two factors demonstrate significant positive relationships. Considering the both industries, Benefits and the Risk Reduction are the factors showing significant relationships with the SCP.

Multiple linear regression analysis was used

to identify the significantly influential SCLs (Power, Benefits, and Risk Reduction) on the SCP of an organization. Stepwise selection method was used to select the best model for the existing data.

Table 7.4 illustrates the initial model fitting by using both types of manufacturing industries.

Table 7.4: Results of the Model Fitting

	Beta	Std. Error	Stand. Beta
Industry type - F&BI ($R^2=58.6\%$)			
(Constant)	1.405	0.677	
Risk R	0.788	0.122	0.643**
Benefits	-0.219	0.082	-0.265**
Industry type – Apparel ($R^2=74.3\%$)			
(Constant)	-2.464	0.443	
Benefits	1.374	0.087	0.910**
Power	0.330	0.048	0.392**
All ($R^2=46.2\%$)			
(Constant)	-0.394	0.458	
Risk R	0.909	0.084	0.683**
Power	0.185	0.066	0.176**

** . Significant at the 0.01 level.

Dependent Variable: SCP

Source: Survey data

Risk and Power become the common significant influences on the SCP of the manufacturing industries, with model accuracy of 46.2%. Separate multiple regression models fitted for the two industries demonstrate different behaviours of the SCLs. For F&BI, Risk reduction shows highest influence on SCP, secondly by the Benefits with the model accuracy of

58.6%. As a behaviour, negative impact of Benefits on SCP is theoretically unrealistic. In AI, Benefits shows highest influence on SCP, Power appears as second factor with the model accuracy of 74.3%.

Finally, the “type of the industry” added to the model as an independent variable, to test the moderating effect of “Type of the industry”. The new model enhances the model accuracy up to 61.1%, with confirming the moderating effect of the variable “Type of the industry” (table 7.5). AI demonstrates higher SCP than F&BI, when the same level of Risk Reduction and Power apply on the SC.

variable “Type of the industry” (table 7.5). AI demonstrates higher SCP than F&BI, when the same level of Risk Reduction and Power apply on the SC.

Table 7.5: Improved Regression

	Beta	Std. Error	Stand. Beta
(Cons.)			
(Cons.)	-0.766	0.393	
Risk R	0.856	0.072	0.644**
Industry type	0.574	0.079	0.392**
Power	0.238	0.057	0.227**

** . Significant at the 0.01 level.

Dependent Variable: SCP

Source: Survey Data, sample size =138

Type : 1=AI, 0= F&BI

Model

Significance of the industry type to the model indicates that the Risk Reduction and Power influence differently on the Supply Chain Performance of the two types of industries. Risk Reduction has more impact on the SCP than the Power in manufacturing sector.

8. DISCUSSION

This study has been conducted to identify the impacts of Supply chain linkages on the Supply Chain Performance. Main focus is on the Supply chain linkages construct on social relationships, instead of the technological side. The data collection was based on the Apparel and Food & Beverages companies within BOI Zones of the Western Province. The emphasis is given to the Supply Chain Linkages and the performance within these two different industries. Zelbst *et al.* (2009) has conducted a similar study comparing manufacturing and service sector companies.

manufacturing and service sector companies.

The ratings given by the Managers for four factors highlight the diverse behaviour of the SC linkages in these two industries. Power in taking decisions on suppliers, buyers, and the competitors is high in F&BI than in the AI. Benefits receive from suppliers and offer to buyers such as sharing knowledge, efficiency, innovativeness, and the quality, are higher in F&BI than the AI. This difference is in a considerable level.

Suppliers responsiveness regarding the quality, quantity, delivery time, share information; buyers readiness to pay on time, share information knowledge, and inventory handling were considered as Risk Reduction activities. Average Risk Reduction ability is high in AI than the F&BI. Finally, the average SCP is higher in

AI than the F&BI and this difference is considerably high level.

All three SCLs are significantly related with SCP in the F&BI. However, the inverse behaviour of the Benefits with SCP is unrealistic. Power is not significantly relate with SCP in AI but all three SCLs show positive relationship. As a manufacturing industry, there is a tendency to exist relationships of Benefits and Risk Reduction with their SCP. Zelbst *et al.* (2009) concluded that the Power, Benefits, and Risk Reduction are positively and significantly correlated with the SCP and Power has an impact on the Supply Chain relationships. Lawler (1992) and Zelbst *et al.* (2009) describe Power as a control related outcome of an exchange.

impact on the Supply Chain relationships. Lawler (1992) and Zelbst *et al.* (2009) describe Power as a control related outcome of an exchange.

The main objective of the study is to identify the impact of Supply Chain Linkages on the Supply Chain Performance. According to the regression analysis, considering two types of industries separately and together show different results.

As a manufacturing industry, Risk Reduction and Power together influence on the SCP of the organization. These two factors influence 46.2% of the variation of SCP of manufacturing industry. Zelbst *et al.* (2009) concluded the linkage variables Power, Benefits, and Risk reduction together

explain 61% of the variation in Supply chain performance. However, in the current study, the Benefits have resulted with a positive but insignificant impact on the Supply chain performance.

Benefits and Power together influence on the SCP of AI and these factors control 74.3% of the SCP of AI organizations. Risk Reduction and Benefits are the influential factors for the SCP of F&BI. 58.6% of the change of SCP in F&BI occurs due to the above two factors. Some of these results are not compatible with the previous research findings.

Due to the variations of the factors, influence on the SCP of these two industries, the “Type of the industry” also included to the model as an independent variable. “Type of the industry” showed significant impact on SCP with the improvement of model accuracy to 61.2%. Selldin and Olhager (2007) also discussed variations of the SCP according the type of the product of the organization. AI shows higher level of SCP than F&BI, when the same level of Risk Reduction and Power strategies applied.

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9. CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

The study is conducted based on the underlying problem why the Supply chain performance differs even though the organizations enjoy the same infrastructure facilities. The study sample comprise of Apparel and Food & Beverages companies within BOI Zones. The Zones facilitated with same labour density and ease of access for the labour market.

The study identifies the impact on Supply chain linkages on the Supply chain performance of two industry sectors, which are different from each other. The Supply chain linkages construct on Power, Benefits and Risk Reduction evaluated among Apparel and Food & Beverages companies within Western province, Sri Lanka. The linkage variables are identified based on the social relationships within an organization's Supply Chain.

Based on the findings, the ability to control suppliers, buyers, and competitors and the ability to reduce the risk factors related to the suppliers and the buyers are the main influential factors on the Supply chain performances of the organization. These influential levels are deferent in F&BI than in the AI. AI can achieve higher level of SCP than the F&BI, when using the same level of Power and Risk Reduction strategies.

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influential factors on the Supply chain performances of the organization. These influential levels are deferent in F&BI than in the AI. AI can achieve higher level of SCP than the F&BI, when using the same level of Power and Risk Reduction strategies.

AI needs to pay more attention on enhancing the two types of benefits such as benefits that will receive from the suppliers and benefits that will be offered to the buyers. Further, they have to pay attention on the power applied to the suppliers, buyers and the competitors. Higher the power applied, will result higher SCP.

F&BI's SCP varied due to the ability of risk reduction and the level of benefits given and received. Risk reduction ability has more power to enhance the SCP of F&BI. However, unrealistic behaviour of the influence of benefits (received and given) on SCP arise with the data.

One of the reasons to transpire this result can be the poor level of awareness regarding the advantages of benefits receiving and giving among the Managers of F&BI.

9.2 Recommendations

The findings pave the way to look into the Power and Risk reduction variables, since it has a significant impact on the Supply chain performance of both industries. The Supply chain performance recognize as the ability to satisfy the ultimate customer.

The Benefits sought described in a detailed manner where suppliers and buyers

connected to the organization in a way beneficial to the organizational Supply chain performance. The top management needs to pay attention on these Benefits in developing the operational performance. Efficiencies and knowledge sharing are Benefits gained from upstream and downstream Supply Chain that is essential to increase the Supply chain performance.

The innovative ideas and novel technologies received from the buyers and suppliers create a greater influence on the organizational performance. The top management must consider the standardization of procedures between suppliers and buyers to deliver the products precisely on time to the end customers.

Further, the management involvement is needed to reduce the Risk faced by the organizations. The Supply chain linkages created on Risk reductions have a significant impact on the Supply chain performance of Sri Lankan Apparel and Food & Beverages Industries.

Order response time and order delivery from suppliers need to be structured appropriately in order to reduce the fear of stock out at a peak demand. By sharing the market information and new ideas with the suppliers will reduce the Risk while increasing the knowledge about the market trends.

10. LIMITATIONS OF THE STUDY

There are limitations to the study that should be noted. First, the generalization of the sample is questionable. The sample selected is the Apparel and Food & Beverages companies within Sri Lankan Western province BOI zones. The respondents are only from four BOI Zones out of seven. Lack of availability of previous researches and the studies, is another limitation within Sri Lankan context. Therefore, the study is limited to a less background knowledge about the area of the study.

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Table 2.1: Direction of Abnormal Returns (ARs) on Day 0 of Overall Sample

Direction	Number	%
Positive	29	43
Negative	38	57
Total	67	100

Source: CSE's C-D (2007)

Figures with the full papers should be formatted with same guidelines given for the table. The only difference is the position of the title which should be available at the bottom of the Figure. Do not use words "chart", Graphs etc to highlight the figures. Please see figure 2.1 for example.

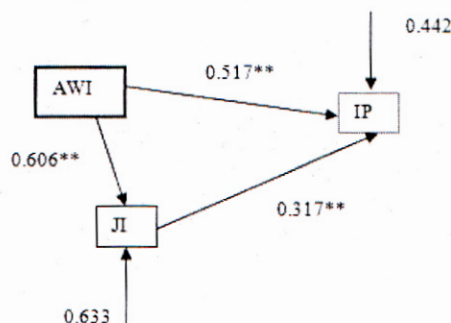


Figure 2.1: Path Model

Source: Developed by researcher

Correct citation with the text of the article should be given to easy identification of table or figure. Example "see table no 2.1 for direction of abnormal returns (ARs) on day 0 of overall sample."

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Authors are expected to correct proofs expeditiously and make minimum alterations. It is to be noted that the responsibility for correcting proofs lies with the author and any delay in returning corrected proofs will result in the delay of the publication or its withdrawal from the publication.

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Proper citation should be given within the text of the paper. It is recommend following "American Psychological Association (APA)" for citation. A list of reference works is included in the article, authors are advised to adopt APA methods. For further information on APA Method of Citation and References please log into <http://apastyle.apa.org/> See examples below for reference formats.

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ACKNOWLEDGMENT.

The heading of the Acknowledgment section and the References section must not be numbered.

4. LIST OF REFERENCE

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