Determinants of Consumer Satisfaction on E-Procurement/ Online Purchasing In Sri Lanka

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Abstract— Online purchasing and E-Procurement is a developing industry in Sri Lanka. During the past two years online purchasing has developed drastically. Many online has stores have developed and made mark in the industry. Main objective of this study is to determine the factors that would affect consumer satisfaction in online purchasing / e-procurement in Sri Lanka. Primary data gathering has been carried out through a questionnaire survey. Questionnaires were distributed among internet users manually. Online survey was also done by distributing questionnaires through emails and by distributing online questionnaire. Nine were focused on demographic factors and thirteen questions were included to evaluate the consumer satisfaction towards online purchasing and e-procurement. 274 valid questionnaires were collected. Descriptive analysis has been carried out to check the relationship between the customer satisfaction on E-procurement/ online purchasing and other explanatory variables. Due to the availability of colliniarity between explanatory variables, factor analysis has been carried out using data reduction techniques. To check the reliability of extracted factors, reliability analysis has been carried out. Based on the reliable factors hypothesis testing has been carried out for ordinal data using Kruskal Wallis test. 66% of the consumers are satisfied with online purchasing / e-procurement in Sri Lanka. Consumer satisfaction on e procurement/ online purchase can be categorised into three factors; Customer Service, Security & payments, Product information. Gender and purpose of browsing have significant impact on customer service. Most consumers are dissatisfied with response time, security, privacy, transaction ability, delivery speeds, and customer service after sales. Consumers are satisfied with information quality, user friendliness and product variation, price of products, payment systems & customer service before. Development of local online websites, secure delivery of packages, video facility for product description, introducing "cash on payment" methods are further recommended to enhance the online purchasing/ e-procurement in Sri Lanka.

Keywords— E-Procurement/ Online Purchasing, Factor Analysis, Consumer Satisfaction

I. INTRODUCTION

In the modern world companies tend to market their products in a different manner. Traditional Procurement / Purchasing decreases because of online purchasing. A consumer only needs a computer, mobile phone and an internet connection to connect to the cyber world. Online Purchasing has been a dominant factor around the world where marketers offer their products & services in an online store to their customers. Consumer who is at office, home, shop, road etc anywhere in the world could purchase desired items from websites of marketers or suppliers. Online Purchasing has been an effective procurement strategy because it is very easy for the consumer to purchase goods or services on the other hand manufacture, supplier, and marketer should not maintain physical stores or retail shops to display goods. They simply need an efficient supply chain & warehouses to cater the consumer demand.

Many marketers develop online purchasing where consumer could communicate with the marketer and the online stores are always open for consumers to purchase goods 24/7.Since marketers are not available with face to face with the consumer; consumer has to serve himself to satisfy their needs. There are several types of E-Commerce websitesfor instance Consumer to Consumer (C2C), Business to Business (B2B), and Business to Consumer (B2C). C2C is a person to person trading which mainly takesplace in auction sales, Such as in e-bay. B2B denotes to Business-to-Business trades where consumers areon other businesses on both ends; it implieseither between manufacturer & wholesaler or retailer & wholesaler. B2C refers to transactions between businesses and the end consumer.

Consumers switching to online purchasing have had a great impact on traditional shopping stores. Mobile phone usage & Tablet usage have eased the shopping for consumers. In Great Britain, access to internet using mobile phones has been more than double since 2010 to 2013, 24% to 53%.Through the invention of smart phones consumers could see the products through the device. Purchasing through Mobile phones is known as M-Commerce (Mobile Commerce).

In Sri Lanka, According to ITU in the beginning of 2012, 15% of population was online.Sri Lanka is listed in the 71st position whereit is 3927948 internet users & market penetration 18.3% in 2012. According to Department of Census and Statistics 2009 December Publication, Sri Lanka's Computer Literacy rate is 20.3% in all provinces. Western Province has the highest computer literacy ratewhich is 15.3% in 2013.Out of the population in Sri Lanka 21.9% are internet users according to World Bank. Mainly internet is accessed through (52%) dongle,(57%)mobile, (15%) ADSL connection according to Nielsen Consumer Survey.Internet usage has a great impact towards in enhancing the human living standards. Online purchasing has become an economical and massive factor in online business. Advancement of information technology is a must to survive in the modern world.

There is a very few studies done in this area in Sri Lanka, since online purchasing is a developing function it would be important for E-marketers, manufactures, website designers to get the knowledge about Online Purchasing Consumer Satisfaction.
This study aims at the factors that would affect consumer satisfaction e-procurement / online purchasing in Sri Lanka and an effect on consumer satisfaction.

- To analyse how they effect to consumer satisfaction.
- To give opinions on key areas of E-marketers, manufactures and whatwebsite designers should focus on.

II. LITERATURE REVIEW

Customer Satisfaction includes three basic components 1) consumer satisfaction is a response (emotional or cognitive); 2) the response pertains to a particular focus (expectations, product, consumption experience, etc.); 3) The response occurs at a particular time (after consumption, after choice, based on accumulated experience, etc.). (Giese and Cote).Oliver (1991) defines that customer satisfaction as the overall attitude towards a goods or services after they have acquired and used it. According to Anderson, Fornell & Rust customer Satisfaction can be defined as the overall assessment based on total purchase and consumption experience with a good service over time.

Cheuk, (2012), have conducted a research on "Factors Affecting Consumers Purchasing Decisions in Online Shopping in Hong Kong". The main aim of this study was to investigate the factors affecting Hong Kong consumer's online purchasing decisions and behaviour approaches. There were three objectives in the study, (1) To point out the factors affecting the intension of online shopping, (2) To provide useful information for online shops in marketing decision, (3) To identify the importance of online selling in marketing decision in fashion industry" (Cheuk, 2012).

To collect information & data a questionnaire survey has been designed. 172 respondents have given their answers to the questionnaires. Data have been analysed, were used primary data & descriptive statistics reliability analysis and regression analysis were applied in the statistical analysis. From the survey results they have identified those subjective factors are not relevant in influencing the consumer's online purchasing decision & behaviour. While the three factors from objective factors including Price, Product Quality and web trust are found to have an effect to customer online purchase behaviour.

III. METHODOLOGY

In this research, researcher attempts to inspect the factor which affects the consumer satisfaction in online purchasing and e-procurement in Sri Lanka. After identifying the determinants that would affect the consumer satisfaction on online purchasing the questionnaire was designed. This research is more a quantitative research that relies on quantitative data. Due to time constraints researcher has limited the sample to 274.

The main data collection method of the research is through questionnaires. Questionnaire is designed to two parts (PART A & PART B). Part A of the questionnaire is designed to collect the demographic data from the respondents. Part B of the Questionnaire directly relates to the Satisfaction of online purchasing. Twelve determinants have been identified by the researcher, under the determinants, part B is designed. Respondents were asked to evaluate the questions FIVE-PONIT-LIKERT-TYPE-SCALE. Likert scale is used to allow the individual to express how he/she agrees with the statements. Most preferred answers were five while least preferred answer was one.

Descriptive analysis has been carried out to check the relationship between the response variable and other explanatory variables. Due to the availability of collinearity between explanatory variables and as those variables are very much related to the job satisfaction, factor analysis has been carried out using data reduction techniques. To check the reliability of extracted factors, reliability analysis has been carried out. Based on the reliable factors hypothesis testing has been carried out for ordinal data using Mann–Whitney test and Kruskal Wallis test.

IV. RESULTS AND DISCUSSIONS

When considering the overall satisfaction of online users, 8% of the respondents are strongly satisfied about the online shopping experience. 58% of them are somewhat satisfied about their online shopping experience. Only 6% of the respondents are dissatisfied about their online shopping experience.
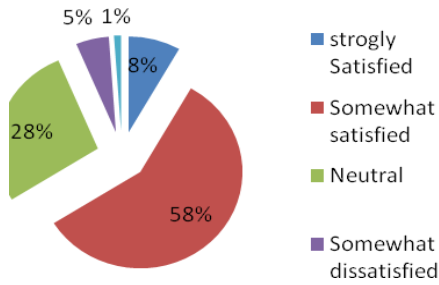

Figure 1. Overall satisfaction

When considering the gender it can be identified that Males have used online stores more than Females. Male usages of online purchasing stores are 73.4% and Female usage 26.6 %.
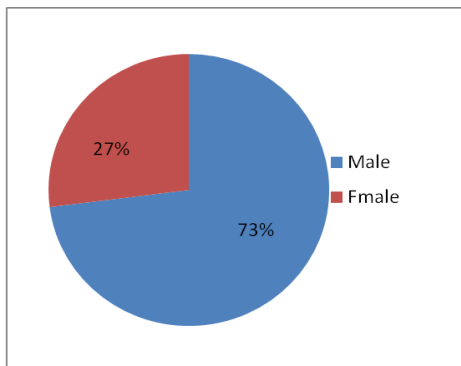

Figure 2. Distribution of online shopping by gender

Most of online users are between age 16 & 25. In age group 26- 40, 13% and 41- 60 age group 5% online users. Most of the users who fall in 16-25 age categories contain employed or unemployed students. Youth has much tendency towards browsing and using internet for online purchasing. 26-40 & 41-60 age group doesn't have much interest towards online purchasing.
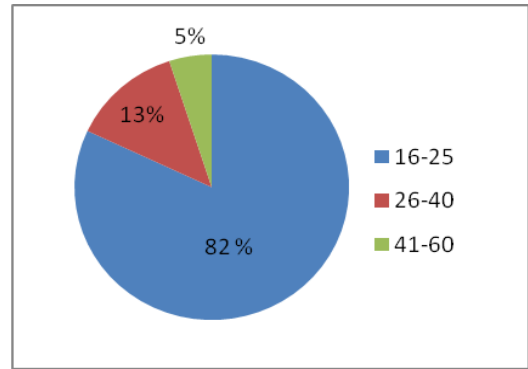

Figure 3. Distribution of e-procurement by age

It can be identified that 88% of Unmarried people are using internet or browsing (12%) Married persons have low interest in using internet or browsing. Researcher can observe a huge difference between interests in online stores in marital status.
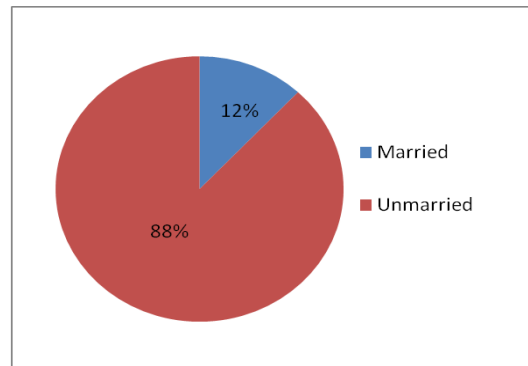

Figure 4. Distribution of online shopping by marital status

It can be observed that 48.5% respondents are unemployed or not working. 31.8% employed respondents have interest in online purchasing. 6.9% of people doing business have low interest in online purchasing &e-procurement. As majority of young generation is interested in online shopping this can be further interpreted.
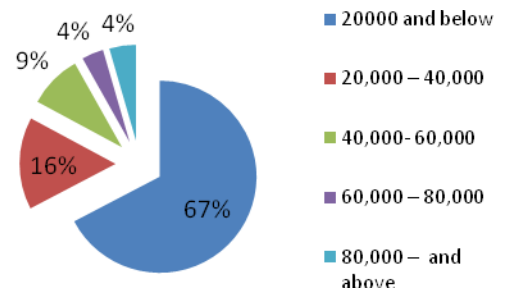

Figure 5. Distribution of online shopping by income

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67% of the respondents fall in 20000-below income group. 16% of the sample falls into 20000-40000 income category.40000-60000 income categories only occupy 6% of the sample. Income group between 60000-80000 and 80000-and above occupies 8% of the sample.
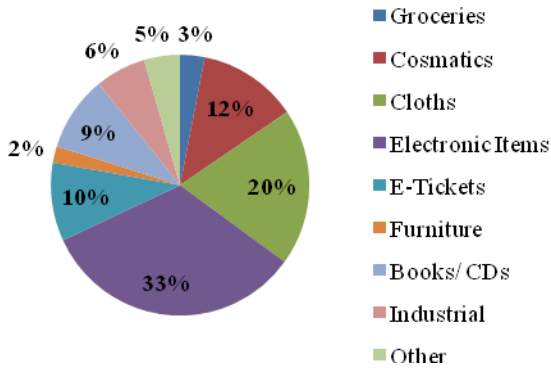

Figure 6. Preference of respondents on different categories available in online stores

When considering the purpose of online shopping, 46%of the sample browses to get prices and 39% of the respondents browse to online stores for purchasing. When considering the frequency of visiting online stores 34% of the respondents visit online stores daily, 33% of the respondents visit online stores weekly, 28% of them visit online stores monthly. Most preferred purchasing items from online stores are electronic items, as a percentage it is 33%, second most preferred category is cloths which is 20%. Cosmetics and e-tickets category has 12% and 10% as percentages. Most preferred online store is eBay among the respondents. Other than to eBay, ikman.lk and wow.lk web sites are preferred by the respondents. It is worthwhile to note that wow.lk and anything.lk are local sites. Shipping time of these stores are quite lower than that of eBay. That may be reason behind this preference. There may be growing tendency for local online stores.

Table 1. Response of the respondents for determinants of customer satisfaction in online stores.

Factors	Strongly Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Strongly Satisfied
Information Quality (n=271)	5 (1.8%)	16 (5.8%)	49 (17.9%)	175 (63.9%)	26 (9.5%)
User Friendliness (n=269)	3 (1.1%)	16 (5.9%)	66 (24.5%)	135 (50.2%)	49 (18.2%)
Product Variation (n = 268)	4 (1.5%)	33 (12.3%)	72 (26.9%)	95 (35.4%)	64 (23.9%)
Price Of Products (n=269)	3 (1.1%)	26 (9.7%)	80 (29.7%)	126 (46.8%)	34 (12.6%)
Response Time (n=270)	8 (3%)	40 (14.8%)	95 (34.7%)	91 (33.2%)	36 (13.1%)
Security (n=269)	5 (1.8%)	59 (21.9%)	97 (36.1%)	83 (30.9%)	25 (9.3%)
Privacy (n=268)	4 (1.5%)	53 (19.8%)	91 (34%)	87 (32.5%)	33 (12.3%)
Transaction Ability (n=270)	6 (2.2%)	48 (17.8%)	87 (32.2%)	111 (41.1%)	18 (6.7%)
Payment Systems (n=268)	4 (1.5%)	33 (12.3%)	61 (22.8%)	124 (46.3%)	46 (17.2%)
Delivery Speed (n=268)	15 (5.6%)	47 (17.5%)	81 (30.2%)	111 (41.4%)	14 (5.2%)
Customer service Before (n=266)	10 (3.8%)	35 (13.2%)	79 (29.7%)	125 (47%)	17 (6.4%)
Customer service After (n=265)	12 (4.5%)	43 (16.2%)	93 (35.1%)	97 (36.6%)	20 (7.5%)
Overall satisfaction (n=268)	3 (1.1%)	14 (5.2%)	74 (27.6%)	155 (57.8%)	22 (8.2%)

In order to explore the presence of different components of customer satisfaction, a Factor analysis was conducted using the responses obtained for various items such as information quality, user friendliness, response time etc
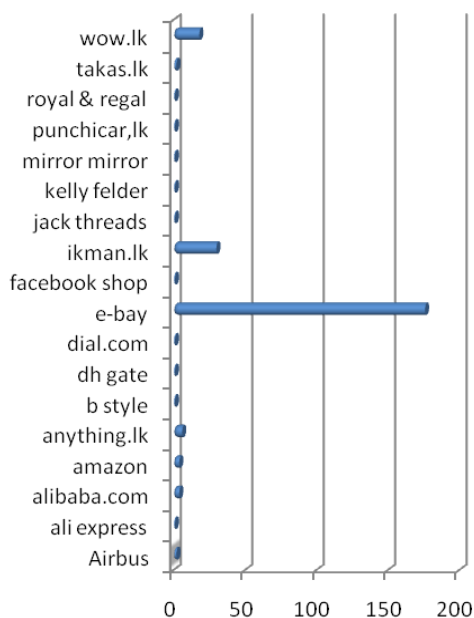

Figure 7. Distribution of online stores by preference

Table: 2. KMO and Bartlett's test result

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.831
Bartlett's Test of Sphericity	Approx. Chi-Square	1124.208
	Df	66
	Sig.	.000

Kaiser-Meyer-Olkin (KMO) and Bartlett's test is used to measure the strength of the relationship among variables. KMO test statistic measure the sample adequacy. As KMO test statistic is greater than 0.5, it can be concluded that sampling is adequate for a satisfactory factor analysis to proceed.Following hypothesis has been checked during Bartlett's test

Ho: correlation matrix is an identity matrix.
H1: correlation matrix is not an identity matrix.

As p-value of the Bartlett's test is 0.000, null hypothesis is not accepted. It can be concluded that, correlation matrix is not an identity matrix which further supports the strength of the relationship among variables used in factor analysis.

Factor model retain three factors which explained the 61% of the total variance in the model. Where the first factor accounts to 38.692 % of the variance. The second factor accounts to 13.204% and the Third 8.908%. three factors are as below:

- Customer service
- Security and payments
- Product information

Reliability analysis has been carried out for the extracted three factors.

Table 3. Reliability analysis results

Rotated Factors	Value of Cronbach's Alpha
Factor 1	0.764
Factor 2	0.792
Factor 3	0.728

According to the results of reliability analysis all three factors are reliable. So all three factors have been used to test the hypotheses.

Table 4. Hypothesis testing for factor 1

Variable Name	Kruskal Wallis Test Statistics	P- Value
gender	5634.00	0.0450
marital status	2969.50	0.147
Age	2.270	0.321
Occupation	4.402	0.221
Monthly Income	8.810	0.66
Purpose of browsing	8.239	0.016
usage	1.358	0.716

Customer service experienced by online users is highly depending on the purpose of browsing.

Payment and security factor is depending on the usage of the online customers.

Product information received by the online users are depending on their usage.

Table 5. Hypothesis testing for factor 2

Variable Name	Kruskal Wallis Test Statistics	P- Value
gender	6680.00	0.583
marital status	3293.00	0.402
Age	1.580	.454
Occupation	6.546	.088
Monthly Income	5.428	.246
Purpose of browsing	.834	.659
usage	2.546	.055

Table 6. Hypothesis testing for factor 3

Variable Name	Kruskal Wallis Test Statistics	P- Value
gender	6076.00	0.079
marital status	3432.00	0.420
Age	.114	.944
Occupation	4.575	.206
Monthly Income	5.832	.212
Purpose of browsing	1.102	.576
usage	7.610	.055

V. CONCLUSIONS

The main purpose of the study is to determine the factors that would affect consumer satisfaction on online purchasing & e-procurement. This study is based on empirical research. Consumers'dissatisfaction rate is quite high for factors such as response time, security, privacy, transaction ability, delivery speeds, and customer service after sales. Consumers satisfaction rate is high for information quality, user friendliness and product variation, price of products, payment systems & customer service before. As per the advance tests done researcher has found that gender has a significant impact on customer service and purpose of browsing also has a significant impact on customer service. 66% of the respondents are satisfied with online purchasing & e-procurement in Sri Lanka. Therefore it is important that information quality, user friendliness, price of products payment systems & customer service is up to required consumer standard. And response time, security & privacy, delivery speed, transaction ability should be up to consumer satisfaction level. So these factors determine consumer satisfaction in online purchasing and e- procurement of Sri Lanka.

Below suggestions can be made by considering the results of the study:

• Develop more local online purchasing Websites because we transfer our money to foreign websites which are based on foreign countries by developing and enhancing local online purchasing website we could transfer money to the local economy.
• Secure delivery of packages should be performed.
• Provide technological facilities and give more knowledge on online purchasing.
• More video information on products. (To inspect the product)
• Frequent users should be encouraged by online stores by giving discounts, special offers.
• New payment methods such as cash on delivery systems should be implemented.
• To attract new more customers the inventories should be updated daily and timely delivery should be performed, for that the online store will need a an effective and efficient supply chain.

Though online store is a developing sector in Sri Lanka it is vastly used in foreign countries. Sri Lankan online stores should compete with the foreign stores therefore above discussed factors will be very helpful. Mainly consumers are lack of trust on payments, security systems & delivery systems in Sri Lanka. New payment methods such as payment on delivery will be important to gain trust of the consumer for a repurchase. Customer service before and after sales is also important because consumer are also concern about these factors also. These factors directly have an effect to consumer satisfaction. World technology is evolving rapidly; Sri Lankan technology should also be aligned with the world technology to serve consumer needs and wants.

REFERENCES

Bahram Ranjbarian, S. F. (2012). Factors Influencing on Customers' E-Satisfaction: A case Study from Iran. *Interdisciplinary Journal Of Contemporary Research In Business Vol 3, NO 9*, 1496-1511.

David M. Szymanski, R. T. (2000). e-Satisfaction: An Initial Examination. *Journal of Retailing Vol. 76, No. 3*, 309-322.

Eugene W . Anderson, C. F. (1997). Customer Satisfaction, Productivity, and Profitability: Differences between Goods and Services. *Marketing Science vol 16*, 129-145.

Gurvinder S Shergill, Z. C. (2005). Web-Based Shopping: Consumers' Attitudes Towards Online. *Journal of Electronic Commerce Research, ,* 79-94.

Jifeng Luo, S. B. (2012). The Effectiveness Of Online Shopping Characteristics And Well-Designed Websites On Satisfaction. *MIS Quarterly Vol. 36 No. 4*, A1-A9.

Jiyoung Kim, B. J. (2009). The roleofetailquality,e-satisfactionande-trustinonlineloyalty. *Journal of Retailing and Consumer Services*, 239–247.

Joan L. Giese, J. A. (2002). Defining Consumer Satisfaction. *Academy of Marketing Science Review Volume 2000 No. 1*, 1-24.

Kala Devi Vegiayan, Chee Wei Ming, & Muhammad Lufti Osman Harun. (January, 2013)). Online Shopping and Customer Satisfaction in Malaysia. *International Journal of Marketing Practices - IJMP*, 13-51.

Karim, R. A. (2013). Customer Satisfaction in Online Shopping: a study into the reasons for motivations and inhibitions. *IOSR Journal of Business and Management*, 13-20.

Lui Cheuk Man, Destiny. (2012). *Factors Affecting Consumers Purchasing Decisions in Online Shopping in Hong Kong.* Hong Kong: The Hong Kong Polytechnic University.

Muhannad M.A Abdallat, H. E.–S.-E. (n.d.). Customer satisfaction. 1-15.

Oliver, R. L. (1980 NOV). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research,,* 460-469.

Oliver, R. L. (1993). Cognitive, Affective, and Attribute Bases of the Satisfaction Response. *JOURNAL OF CONSUMER RESEARCH, Inc. • Vol. 20*, 418-430.

Satharasinghe, D. A. (2004). *Department of Census and Statistics / Computer Literacy of Sri Lanka*. Retrieved August 4, 2014, from www.statistics.gov.lk: http:// www. statistics.gov.lk/CLS/

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