

CUSTOMER RESPONSE TOWARDS SMART PHONES PURCHASE: VERIFICATION FROM STRUCTURAL EQUATION MODELING

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ABSTRACT

This research attempts to examine the customer response towards smart phone purchase in the Nepalese context. The aim of the study was to measure the important factors that affect to consumer purchase intention, brand extension attitude and pay premium price. Descriptive and causal research design was applied in this research. Structured questionnaires were administered for validating the measurement model and testing the structural model for customer response dimensions. It was found brand name, marketing activities, and subjective norms are the most influential factors for customer response of smart phones for purchase intention, brand extension attitude and premium price.

Key words: Purchase intention, brand extension and SEM.

INTRODUCTION AND OBJECTIVE

Consumer behavior is the study of how a consumer select, evaluate and purchase the product. Consumer purchases the product for individual consumption or household use. It is the buying behavior of an ultimate consumer. Consumer behavior involves activity of an individual consumer who evaluates, select, consume and dispose of goods and services (Loudon & Bitta, 1993).

Mobile phones are the indispensable part of people. It plays a leading in people's life. Every people from younger to old are using mobile phones. There is increasing popularity of mobile phones day by day. Mobile phones are spread very fast in the consumer markets (Comer & Wikle, 2008). Competition is very strong in the mobile phone markets. So, marketers should conduct research activities to identify the factors affecting mobile phone purchases (Das, 2012).

Brand name is a name, design, symbol or any features that differentiates seller's products from competitors (Keller, 1993). Brand creates value in the markets. It is more than image and words. Philips (1998)

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argued it is trademark that delivers promise and trust. It is the total of all the marketing programs (Keller, 2003). Brand means the hidden product attributes that is hard to crack (Kapferer, 1997).

After sales service is provided after the product is sold to the customers. Customers can assure that what are the services they will get after the product is bought. Product Warranty and guarantee and other services are given to the customers after purchase. It supports to start new business and enhance customer loyalty. It provides customer value.

Marketing activities are consists all the activities like product design, packaging, supply chain, channel management, pricing and promotion of the product. Marketers perform marketing activities to satisfy customer needs. It inspires marketers to do for the customers (Solomon & Rabolt, 2009).

Price is the money paid for the product bought (Kotler & Armstrong, 2010). Price should create value for the products. It should be different than competitors. Price discount, low price, competitive pricing are some strategies marketers use to capture the markets (Kotler & Keller, 2012). When price become low to another products purchase intention become high (Isabella, 2012). People signal price as a matter of quality (Scitovsky, 1945). Product compatability means the product perfectly fit with customers' interest. Product compatability should also fit with consumer demand (Gatignon & Robertson, 1985). Product should be compatible to the markets before setting the price (Farrell & Saloner, 1985). Subjective norms are the groups, friends, family members, spouses, relatives, and friends' influence towards purchasing the product (Kotler & Keller, 2012). Social groups influence people while buying the product. Before taking purchase decision customer take insight of social groups to reduce cognitive dissonance. Market trend is also important for choosing products (Osman, 2012). Product features are the attributes of the product that will satisfy customer needs and wants (Kotler & Keller, 2012). It is product design, size, color, weight and other specifications.

It is the chance that consume will purchase or consume the product in the future. If purchase intention is increased the chance of being purchased is also increasing (Dodds, Monroe & Grewal, 1991; Schiffman & Kanuk, 2007). It can be used as a major tool for forecasting consumer behavior. Positive purchase intention leads to positive brand commitment that consumers do actual purchase activities (Fishbein & Ajzen, 1975;

Schiffman & Kanuk, 2007). Consumer purchase not only purchase the brand but has developed favorable attitude to others brands in the category (Porter, 1974). Brand extension means extension of an established brand name to introduce new product (Keller, 2003). It can be line extension and category extension. Line extension means using a sub-brand to target market segment within the same product category. In category extension company uses the parent brand in a different product category. Price premium is the total of consumers' willingness to pay more for the brand than other relevant brand (Aaker, 1996). It can be either positive or negative impact to the brand. It is signal of brand strength.

Mohan (2014) examined branding, product design, product performance and price has significant influence on people's buying decision process. Malviya, Saluja, and Thakur (2013) found price, brand preference, social influence and features having a dominant influence on the purchase decision of consumers. Lay-Yee, Kok-Siew and Yin-Fah (2013) confirmed that a significant relationship between purchasing decision with brand concern, convenience concern, dependency concern, price concern, and product features concern and social influence concern. Dziwornu (2013) investigated advanced product features such as internet browsing and durability or quality of mobile phone handsets are the two main factors that are likely to positively and significantly affect mobile phone purchase decision. Khan and Rohi (2013) found that product quality, brand image and family and friends influence were the key variables that influence the brand choice of youths for mobile handset purchase.

Peoples are purchasing smart phones and show the certain behavior pattern that need to be studied. Consumers prefer branding, product design, product performance, price, subjective norms, product features (Dziwornu, 2013; Khan & Rohi, 2013; Lay-Yee, 2013; Malviya, 2013 & Mohan, 2014). Consumer response can be shown as purchase intention, brand extension attitude and pay premium price. As there is lack of research conducted in consumer response towards smart phone purchase. The purpose of the study is to analyze interrelationships among consumer responses/behavior in the Nepalese smart phone markets. The following research questions were raised for the study:

What are the important factors that affects to consumer purchase intention?

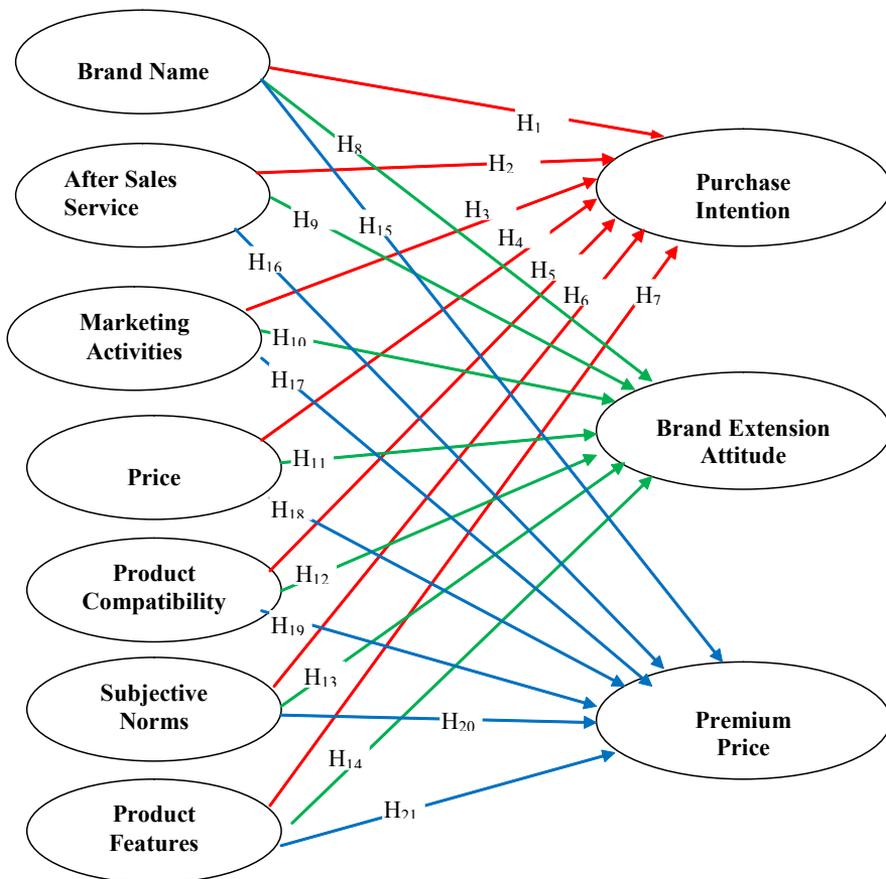
What are the important factors that affect to brand extension attitude?

What are the important factors that affect to pay premium price?

The Objectives of the Study are as follows:

- To measure the important factors that affect to consumer purchase intention.
- To examine the important factors that affect to brand extension attitude.
- To analyze the important factors that affect to pay premium price.

Figure 1: Research Framework



HYPOTHESIS

H₁: Brand name has influence on purchase intention.

H₂: After sales service has influence on purchase intention.

- H₃: Marketing activities has influence on purchase intention.
- H₄: Price has influence on purchase intention.
- H₅: Product compatability has influence on purchase intention.
- H₆: Subjective norms have influence on purchase intention.
- H₇: Product features have influence on purchase intention.
- H₈: Brand name has influence on brand extension attitude.
- H₉: After sales service has influence on brand extension attitude.
- H₁₀: Marketing activities has influence on brand extension attitude.
- H₁₁: Price has influence on brand extension attitude.
- H₁₂: Product compatability has influence on brand extension attitude.
- H₁₃: Subjective norms have influence on brand extension attitude.
- H₁₄: Product features have influence on brand extension attitude.
- H₁₅: Brand name has influence on premium price.
- H₁₆: After sales service has influence on premium price.
- H₁₇: Marketing activities has influence on premium price.
- H₁₈: Price has influence on premium price.
- H₁₉: Product compatability has influence on premium price.
- H₂₀: Subjective norms have influence on premium price.
- H₂₁: Product features have influence on premium price.

METHODOLOGY

The aim of the study was to examine the interrelationship among consumer behavior in the Nepalese smart phone markets. To clarify the concept and to establish the causal relationship, descriptive and causal research design were applied in this study. Constructs were derived from reviewing the literature. Population of the study was the respondents who own different brand of smart phones in the Kathmandu City. Sample size was 290 respondents in Kathmandu City. Convenience samples were taken to fulfill the objectives of the study. Data were obtained through structured questionnaires. Questionnaires were administered to respondents in

Kathmandu City. The questionnaire contained of Likert-type statements that were used to collect responses towards disagreement to agreement using five-point scale (where 1 = strongly disagree and 5 = strongly agree). Exogenous constructs used in this study were brand name, after sales service, marketing activities, price, product compatability, subjective norms, product features. Endogenous constructs used in this study were purchase intention, brand extension attitude and premium price.

The study showed that 53.4 percent of the respondents were male and 46.6 percent of the respondents were female. Majority of the respondents were bachelor graduates having 59.3 percent and master graduates having 26.9 percent. Large number of respondents was representing 67.6 percent on 15 to 25 year age category, followed by 21.7 percent in 25 to 35 age category. For data analysis and testing of hypothesis, Structural Equation Modeling (SEM) was used. SPSS 20 and AMOS 20 statistical and graphical software was used for data analysis. The study was based on survey data. Primary data were taken for this research. Study was conducted in Kathmandu City only.

DATA ANALYSIS

Exploratory factor analysis (EFA)

Exploratory factor analysis is run to extract the factors/constructs (Hair, Anderson, Tatham, & Black, 1998). Scales items were rotated through Varimax Rotation and formed a construct with no cross loadings. EFA gives refined constructs that is used for confirmatory factor analysis (CFA). Bartlett's test of Sphericity (Chi-square 3069.3) which was significant ($p\text{-value} = 0.000 < 0.05$) and KMO value was .747. It was said that sample numbers were adequate for the study. Ten factors were extracted that explained 64.063 of total variance. After scale items rotated from Varimax Rotation, scales items above 0.5 were grouped into the related constructs. Scales items below were dropped from the study. Extracted factors were named were termed as brand name, after sales service, marketing activities, price, product compatability, subjective norms, product features, purchase intention, brand extension attitude and premium price.

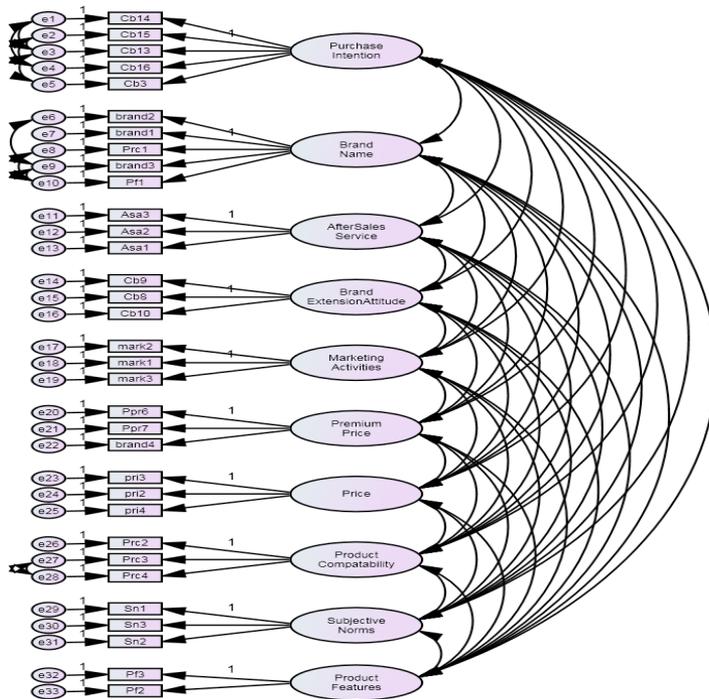
Table 1: Rotated Component Matrix

Rotated Component Matrix ^a										
	Component									
	1	2	3	4	5	6	7	8	9	10
Cb14	.843									
Cb15	.842									
Cb13	.772									
Cb16	.762									
Cb3	.654									
brand2		.674								
brand1		.665								
Prc1		.658								
brand3		.566								
Pf1		.561								
Asa3			.810							
Asa2			.776							
Asa1			.754							
Cb9				.759						
Cb8				.712						
Cb10				.701						
mark2					.789					
mark1					.748					
mark3					.703					
Cb6						.755				
Cb7						.698				
brand4										
pri3							.794			
pri2							.736			
pri4							.576			
Prc2								.856		
Prc3								.683		
Prc4								.574		
Sn1									.717	
Sn3									.707	
Sn2									.617	
Pf3										.860
Pf2										.818
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.										
a. Rotation converged in 7 iterations.										

Confirmatory factor analysis (CFA)

Confirmatory factor analysis measures the validity and reliability of the latent variable as well as the model proposed. It shows the relations among factors, and the relations between the factors and the observed variables. CFA is run to examine the fitness and validity of the measurement model (Anderson & Gerbing, 1988). The model was fairly fitted as, CMIN/DF = 1.804, GFI = 0.911, CFI = 0.902, and RMSEA = 0.041 (Byrne, 2001, Hair, 1998; Joreskog & Sorbom, 1993). So, it was said that the model was fairly fitted.

Figure 2: Measurement Model



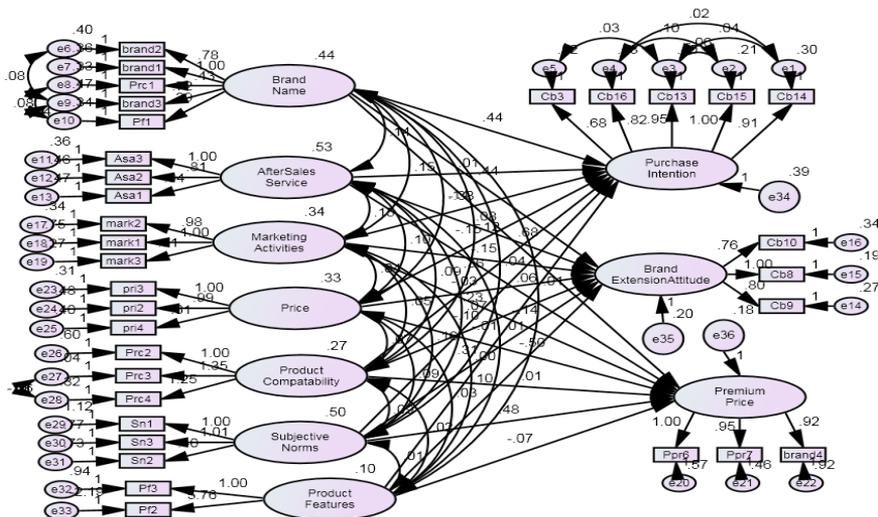
Testing the validity is the major benefit of running CFA. For validity purpose, discriminant validity and convergent validity were examined for the measurement model. If AVE (Average Variance Explained) of the construct should be above 0.5, it contains discriminant validity (Fornell & Larcker, 1981). For achieving construct validity, AVE should be higher than MSV (Maximum Shared Variance) and ASV (Average Shared Variance).

All the above criteria were met for the measurement model. So, validity of the model was confirmed.

Structural equation modeling (SEM)

Structural equation modeling is a multivariate data analysis tools to examine the structural relationship among manifest variables (Structural equation modeling, 2017). SEM is the combination of exploratory factor analysis and multiple regression analysis. It allows to perform multiple and interrelated analysis at a time. It tests the relationship among exogenous and endogenous constructs in the structural model. SEM is run after testing the CFA. Figure 3 showed the structural model.

Figure 3: Structural Model



Squared multiple correlation of purchase intention (.266 or 26.6%, brand extension attitude (.361 or 36.1%) and premium price (.590 or 59%). It was said that prediction capacity of the structural model was explained 26.6 percent for brand image, 36.1 percent for brand extension attitude and 59 Percent for premium price.

Hypothesis testing

Relationship among consumer response/behavior constructs was tested. It was measured below.

Table 2: Relationship among Customer Response Dimensions (Purchase Intention)

Path	From	To	Estimate	S.E.	C.R.	P	Result
H ₁	Brand Name	Purchase Intention	.439	.110	4.005	***	Supported
H ₂	After Sales Service	Purchase Intention	.006	.082	.070	.944	Supported
H ₃	Marketing Activities	Purchase Intention	-.331	.132	-2.508	.012	Supported
H ₄	Price	Purchase Intention	-.151	.110	1.374	.169	Not Supported
H ₅	Product Compatability	Purchase Intention	.355	.098	3.619	***	Supported
H ₆	Subjective Norms	Purchase Intention	.229	.103	2.217	.027	Supported
H ₇	Product Features	Purchase Intention	-.010	.072	-.136	.892	Not Supported

The regression coefficients of brand name, marketing activities, product compatability and subjective norms on purchase intention were found significant. So, H₁, H₃, H₅ and H₆ were supported.

Regression coefficient of after sales service, price and product features on purchase intention were statistically insignificant. So, H₂, H₄ and H₇ were not supported.

It was said that brand name, marketing activities, product compatibility and subjective norms were the influential factors for purchase intention of smart phones.

Table 3: Relationship among Customer Response Dimensions (Brand Extension Attitude)

Path	From	To	Estimate	S.E.	C.R.	P	Result
H ₈	Brand Name	Brand Extension Attitude	.443	.093	4.764	***	Supported
H ₉	After Sales Service	Brand Extension Attitude	.077	.069	1.118	.264	Not Supported
H ₁₀	Marketing Activities	Brand Extension Attitude	-.145	.108	2.349	.017	Supported
H ₁₁	Price	Brand Extension Attitude	-.031	.092	-.335	.738	Not Supported
H ₁₂	Product Compatability	Brand Extension Attitude	-.098	.077	-1.279	.201	Not Supported
H ₁₃	Subjective Norms	Brand Extension Attitude	.315	.093	3.379	***	Supported
H ₁₄	Product Features	Brand Extension Attitude	.098	.062	1.567	.117	Not Supported

The regression coefficients of brand name, marketing activities and subjective norms on brand extension attitude were found significant. So, H8, H10 and H13 were supported.

Regression coefficient of after sales service, price, product compatability and product features on brand extension attitude were statistically insignificant. So, H9, H11, H12 and H14 were not supported.

It was said that brand name, marketing activities and subjective norms were the influential factors for brand extension attitude of smart phones.

Table 4: Relationship among Customer Response Dimensions (Premium Price)

Path	From	To	Estimate	S.E.	C.R.	P	Result
H ₁₅	Brand Name	Premium Price	.683	.131	5.199	***	Supported
H ₁₆	After Sales Service	Premium Price	.065	.087	.745	.457	Not Supported
H ₁₇	Marketing Activities	Premium Price	-.136	.138	-.986	.324	Not Supported
H ₁₈	Price	Premium Price	-.503	.136	-3.711	***	Supported
H ₁₉	Product Compatability	Premium Price	.011	.097	.110	.912	Not Supported
H ₂₀	Subjective Norms	Premium Price	.484	.130	3.738	***	Supported
H ₂₁	Product Features	Premium Price	-.069	.078	-.890	.373	Not Supported

The regression coefficients of brand name, price and subjective norms on premium price were found significant. So, H15, H18 and H20 were supported. Regression coefficient of after sales service, marketing activities, product compatability and product features on premium price were statistically insignificant. So, H16, H17, H19 and H21 were not supported. It was said that brand name, price and subjective norms were the influential factors for brand extension attitude of smart phones.

CONCLUSION

The research was designed to measure the customer response/ behavior towards smart phone purchase in the Nepalese context. Brand

name, marketing activities, and subjective norms are the most influential factors for customer response of smart phones for purchase intention, brand extension attitude and premium price. People are indifferent to after sales service and product features for showing customer response towards smart phone purchase. The study is partially consistent with (Dziwornu, 2013; Khan & Rohi, 2013; Malviya, Saluja, & Thakur, 2013; Lay-Yee, 2013; Mohan, 2014). Nepalese smart phone markets are full of varieties of brands. All people are known about the brand, product features and services given after the purchase. Consumer responses are mostly focused on purchase intention and brand extension attitude and least prefer to pay premium price. Product features and after sales services is important to product sales but customers are more focused to purchase of the brand only. Marketers should make strategies that customer should favor to brand extension besides purchase of the smart phones. Branding strategies is done to create unique, distinct and favorable image for the smart phones brands.

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