

# Digital Age Communication Device : A Cross-Functional Analysis

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## Abstract

**Purpose:** The purpose of this study is to determine the importance of brand satisfaction, brand trust and brand equity in determining loyalty in the mobile phone purchase. The study argues that price consciousness of a consumer has a moderating impact on the above effects i.e. impact of brand satisfaction, brand trust and brand equity on loyalty components.

**Design/methodology/approach:** A total of 127 respondents were surveyed on 18 questions related to brand satisfaction, brand trust, brand equity, price consciousness, attitudinal and behavioral loyalty.

**Findings:** The findings revealed a significant impact of brand trust and brand equity on attitudinal and behavioral loyalty. The study also revealed a strong moderation impact of price consciousness on both the relationships

**Research Limitations& Future Directions:** Future studies may look at generalizing the findings by conducting studies in other geographies using a larger sample base.

**Keywords:** price consciousness, attitudinal loyalty, behavioral loyalty, brand trust, brand equity, brand satisfaction.

**Introduction** - Significant improvements in profits may result from a small increase in loyalty (Huffmire, 2001). Reichheld & Sasser (1990) predicted an increase of 30% to 85% for a 5% increase in loyalty. Because of this impact magnitude of loyalty, there has been an intense research focus in the domain of loyalty over the past three decades. In parallel, it has been noted that a significant way for a company to build and gain competitive advantage is to develop a strong brand (Pitta & Katsanis, 1995). Along same lines, retaining existing customers and making them loyal has been found to be one of the main components of maintaining sustained competitive advantage (Dekimpe, Steenkamp, Mellens, & Abeele, 1997).

**Brand Loyalty in Electronic Appliances:** Rundle-Thiele & Bennett (2001) noted from their review of loyalty literature that brand loyalty has different measurements for durables, consumables and services market. For durable goods like electronic appliances, the products have a longer useful life and are capable of surviving many uses.

**Role of price consciousness:** From the very early days of consumer research, the economic paradigm - prevalent in 1940s of consumer behavior, Zaichowsky (1991) posited that individual buyers seek to maximize their satisfaction considering their tastes and relative prices. According to Zeithaml V. (1988), price is sacrificed to obtain some service or product and lower the perceived price, lower is the perceived sacrifice. This gives a sense of price fairness.

However, consumers have been noted to trade off price consciousness with the product purchase risk.

The purpose of this study is to determine the importance of brand satisfaction, brand trust and brand equity in determining loyalty in the mobile phone purchase. Further, the study argues that price consciousness of a consumer has a moderating impact on the above effects i.e. impact of brand satisfaction, brand trust and brand equity on loyalty components.

## Literature Review and Hypothesis

**Theoretical Background:** Expectation-Confirmation theory (Oliver R., 1999) has formed the bedrock for a large set of loyalty studies. As per the theory, consumers form an initial expectation before the purchase, followed by development of perceptions about the performance of the product after an initial period of consumption. Post the initial consumption, consumer frames an opinion on the level of satisfaction in comparison to their initial expectation. If the initial expectation is met/ exceeded, the consumer is satisfied and hence has a greater likelihood of continuing their association and forming repurchase intention. Resultantly, satisfaction, trust and the perception of brand value that develops after a period of association and consumption is likely to form an antecedent of the decision to repurchase or may hence determine loyalty.

**Brand Loyalty:** Engel, Kollat, & Blackwell (1982) had defined Brand Loyalty as "preferential, attitudinal and

behavioral response expressed over a period of time by a consumer toward one or more than one brand in a product category". As one of the most widely accepted definitions, Oliver (1997) termed customer loyalty as "a deeply held commitment for rebuying or re-patronizing a preferred product/service consistently in future, leading to a repetitive same-brand or same brand-set purchasing, regardless of situational influences and marketing efforts that may have a potential for causing switching behavior".

**Brand Satisfaction:** Oliver (1997) defined satisfaction as the customer's fulfilment response on the basis of his judgement that the product or service has provided a pleasurable level of experience. Satisfaction is achieved when the performance of the brand meets the expectation of the customer and when the expectation is not met, it leads to dissatisfaction. Nam, Ekinici and Whyatt (2011) defined brand satisfaction as an evaluative summary of the direct consumption experience that is arrived at on the basis of the discrepancy between the expected and the actual performance of the brand.

**Brand Trust:** Trust can be understood as the acceptance of vulnerability with a confidence of relying on the other (Lewicki, McAllister, & Bies, 1998). One party's confidence in reliability and integrity of the other party has often been cited as the pre-requisite for development of trust (Morgan & Hunt, 1994). As Chaudhuri & Holbrook (2001) noted, a customer who trusts a brand is more likely to be a loyal customer and will be willing to buy new products, to pay premium for the brand and also share a positive word of mouth with others.

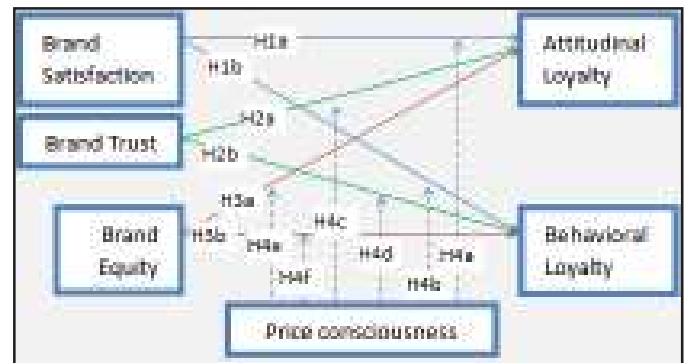
**Brand Equity:** Brand equity is one of the most important intangible assets possessed by a firm. Aaker (1995) defined brand equity as the set of brand assets and liabilities that are linked to the brand that either adds to or subtracts from the value provided by the product. The assets of a brand include elements like brand loyalty, awareness, perceived quality, association and intangibles like patents and trademarks. Brand equity may be exhibited in the manner customers consider, feel and act towards a brand and may also be reflected in the prices, market share and profitability a brand commands (Kotler & Keller, 2009).

**Price consciousness:** Price consciousness was first conceptualized as a construct by Lichtenstein, Ridgway, & Netemeyer (1993). They described price consciousness as the "degree to which a customer focuses exclusively on paying low prices". Monroe and Petroschius (1981) conceptualized price consciousness as an individual's differing reluctance to opt for additional features of product if the price differential is too large. Along similar lines, Miyazaki, Sprott, & Manning (2000) termed price consciousness as reflecting the difference in individual's enduring motivation for considering unit price information.

**Research Model and Hypothesis:** Background literature review suggests that loyalty has strong antecedents in Brand Satisfaction, Brand Trust and Brand Equity. Hence, the

following research model is proposed to assess the moderating impact of price consciousness of the customer on the antecedent path of Loyalty.

**Figure 1**



**Brand Satisfaction and Loyalty:** A large set of past studies have demonstrated a positive relationship between satisfaction and the twin dimensions of loyalty. Brand Satisfaction has been established as a key element of brand loyalty (Oliver R., 1999). Taylor, Celuch, & Goodwin (2004) suggested that brand satisfaction is an attribute of both behavioral and attitudinal loyalty. Chiou & Droge (2006) found in their study the satisfaction experience by a customer has a positive impact on the exhibited attitudinal loyalty. On the behavioral front, Rauyruen & Barrett (2007) found that satisfaction emerged as a positive predictor of behavioral loyalty. The positive impact of satisfaction on behavioral and attitudinal loyalty was also established by Trif (2013).

Hence, it is hypothesized that:

H1a: Brand Satisfaction has a positive impact on attitudinal loyalty in purchase of mobile phones

H1b: Brand Satisfaction has a positive impact on behavioral loyalty in purchase of mobile phones

**Brand Trust and Loyalty:** Trust is a well studied and well established antecedent of loyalty (Chaudhuri & Holbrook, 2001). Trust in a strong brand enables customer to better understand the offering and be better equipped to evaluate the associated perceived risks of purchase and consumption of the offering (Berry, 2000).

Hence, it is hypothesized that:

H2a: Brand Trust has a positive impact on attitudinal loyalty in purchase of mobile phones

H2b: Brand Trust has a positive impact on behavioral loyalty in purchase of mobile phones

**Brand Equity and Loyalty:** Pitta and Katsanis (1995) called brand equity a fusion of all the procedures that went into marketing the brand in conjunction with the added value that the brand name contributed to the product. In line with the expectancy theory, a higher brand equity leads the consumer to the perception that the price and quality of the product is of a higher order and that the quality of product is fair for the product (Kim & Hyun, 2011). Hence, as consumer perceive a higher quality for a given price with a

higher brand equity product, they are more likely to purchase the product. Hence, in line with these, the following hypotheses for our study on mobile phone purchase behavior is proposed:

H3a: *Brand Equity has a positive impact on attitudinal loyalty in purchase of mobile phones*

H3b: *Brand Equity has a positive impact on behavioral loyalty in purchase of mobile phones*

**Moderating role of Price Consciousness on antecedent path of Loyalty:** Price consciousness is an important element influencing purchase behavior. Highly price conscious customers derive emotional value by searching for lower prices (Alford & Biswas, 2002). These customers get a feeling of pride if a lower priced product is found. Hence, a customers' level of price consciousness determines his/her propensity to search for prices.

Customers have been demonstrated to be less price conscious in cases of high value purchases (Sinha & Batra, 1999). This is because high value purchases may be considered riskier (risk of going wrong with a purchase – viz. quality, value per unit) than low value purchases.

Basis this, the following are hypothesized:

H4a: *Price consciousness of customer moderates the relationship between Brand Satisfaction and Attitudinal loyalty in purchase of mobile phones*

H4b: *Price consciousness of customer moderates the relationship between Brand Satisfaction and Behavioral loyalty in purchase of mobile phones*

H4c: *Price consciousness of customer moderates the relationship between Brand Trust and Attitudinal loyalty in purchase of mobile phones*

H4d: *Price consciousness of customer moderates the relationship between Brand Trust and Behavioral loyalty in purchase of mobile phones*

H4e: *Price consciousness of customer moderates the relationship between Brand Equity and Attitudinal loyalty in purchase of mobile phones*

H4f: *Price consciousness of customer moderates the relationship between Brand Equity and Behavioral loyalty in purchase of mobile phones*

**Research Design:** The study employed a quantitative research design. Questionnaire development and sample selection are discussed in the following paragraphs:

**Questionnaire Design:** The questionnaire had 18 statements covering the dependent, independent and moderating variables of the study besides a set of demographic questions. A 5- point Likert scale was presented for assessment of all statements.

**Table** (see in last page)

**Sample:** An electronic survey was conducted using online survey platform for sampling from the mass population that had purchased mobile phones in past. Respondents were asked to rate the survey elements on a 5-point Likert-scale with respect to their last purchased mobile phone. A combined total of 127 responses were received. Of the final

responses received 70% were from men and 30% were from women. The age group profile of the respondents is as follows:

**Table 1: Age distribution of sample**

Age bracket (years)	Percentage of Respondents
21-25 years	7.9%
26-30 years	26%
31-35 years	19.7%
36-40 years	15.8%
41-45 years	12.6%
46-50 years	5.5%
50+ years	12.6%

74% of the participants were employed full-time and 18% were self-employed. The remaining participants were retired, unemployed or students.

**Data Analysis:** A confirmatory factor analysis was conducted to test the measurement model for construct validity. Test on item loading highlighted that item on all the constructs barring price consciousness had standardized loading of 0.6 and above and were considered good indicators (Bagozzi & Yi, 1988). The standardized loading on one operating variables of price consciousness (0.55) was below an ideal acceptable level but above threshold level of 0.5 as indicated by (Hair et al., 2010).

**Table 2: Inter Construct Correlation Matrix**

	AL	BL	BS	BT	BE	PC
AL	1					
BL	0.74	1				
BS	0.17	0.20	1			
BT	0.83	0.73	0.40	1		
BE	0.75	0.74	0.31	0.62	1	
PC	-0.23	-0.20	0.05	-0.27	-0.12	1

AL: Attitudinal Loyalty, BL: Behavioral Loyalty, BS: Brand Satisfaction, BT: Brand Trust, BE: Brand Equity, PC: Price Consciousness

**Model Fitting:** The Confirmatory Factor Analysis (CFA) conducted on the model indicated a good fit to the data. The various statistics related to model fitting are as follows:

**Table 3: Model fitting statistics**

Measure	Value
chi-square	149.45
Degrees of Freedom (df)	121
RMSEA	0.043
Normed Fit Index (NFI)	0.95
Non-Normed Fit Index (NNFI)	0.98
Comparative Fit Index (CFI)	0.99
Incremental Fit Index (IFI)	0.99
Relative Fit Index (RFI)	0.93
Goodness of Fit Index (GFI)	0.88
Adjusted Goodness of Fit Index (AGFI)	0.84

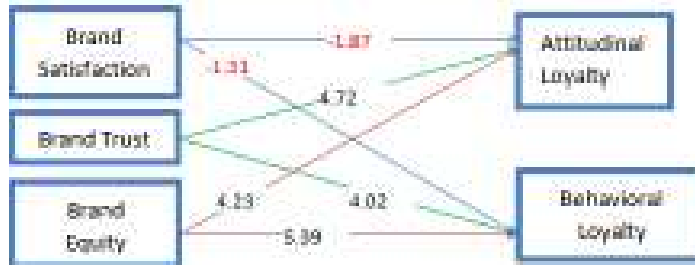
As evident, the model reported a chi-square/df of 1.24 that was well below (and in line with) the recommended level of chi-square/df < 3 signifying a good fit. The RMSEA value was again in line with the recommendation of < 0.05. The NFI, NNFI, CFI, IFI and RFI were well below the



recommended threshold of 0.9 as required for a good model fit. GFI and AGFI were below the ideal level of 0.9 but within acceptable levels of goodness of fit.

**Hypotheses Testing:** Hypotheses testing were carried out using structured equation modelling and regression analysis.

**Figure2: t-values of the structural model using LISREL**



Results of a structured equation modelling analysis did not show a significant relationship between Brand Satisfaction and Attitudinal or Behavioral Loyalty. This was counter to our hypotheses wherein we had expected a positive impact of brand satisfaction on attitudinal and behavioral loyalty. This leads us to not accept the hypotheses H1a/H1b.

Brand Trust was found to have a significant positive impact on Attitudinal and Behavioral Loyalty. This finding was in line with our stated hypotheses. A similar positive impact of Brand Equity was found on Attitudinal and Behavioral Loyalty. Hence, the hypotheses H2a, H2b, H3a and H3b were accepted on the basis of the results.

Linear regression analysis was carried out to examine the effect of price consciousness on the effect of brand satisfaction, brand trust and brand equity on attitudinal and behavioral loyalty. Centering of data was carried out before carrying out the analysis to rule out the problems of multicollinearity. Moderation effect was tested for the two elements that had a significant impact on the twin components of loyalty – brand trust and brand equity. As hypothesized, the analysis revealed a significant moderation of the relationship of all the four relationships as reflected in the table below:

Moderation of price consciousness on:	Significance level	Adjusted R-square
brand equity -> attitudinal loyalty	0.031	0.473
brand equity -> behavioral loyalty	0.005	0.389
brand trust -> attitudinal loyalty	0.002	0.428
brand trust -> behavioral loyalty	0.004	0.397

The moderation was found to be significant at <0.05 levels. This leads us to accepting the hypotheses H4c, H4d, H4e and H4f.

**Discussion and Implications:** This study examined antecedents of attitudinal and behavioral loyalty and the moderating role of price consciousness. The results herein found a strong support for brand trust and brand equity as being indicators for attitudinal and behavioral loyalty. The deviation from the expected came in the relationship between brand satisfaction and the twin components of

loyalty. Though past studies had found a significant impact of satisfaction on attitudinal and behavioral loyalty, the current study results did not highlight a significant finding. Hence even though a consumer may be satisfied with the performance of the current mobile brand, he/she may have a separate brand identified that may have come out with technologically superior product.

Finally, the results revealed a moderation impact of price consciousness on both the components of loyalty. The moderation impact was found for both the significant antecedents of brand equity and brand trust. This was in line with findings of Matzler, Grabner-Kräuter, & Bidmon (2006) who found trust and loyalty relationship to be moderated by price. Price-conscious moderation reflected here is aligned with Sinha & Batra(1999) findings considering that mobile phones fall across price segments. The results of this study has several managerial implications. First, companies involved in electronic products like mobile phones need to remember the role of price-consciousness in creating repeat purchase of their products. Though a consumer may be trusting a brand and have high reference for its brand equity, the same may not translate into repeat purchase of a brand that is not competitive on the price front.

Since, companies can gain several competitive advantages via brand loyal consumers, firms in the space of electronic durables like mobile phones should aspire for higher level of brand trust and brand equity as these have been found to be significant antecedents of both attitudinal and behavioral loyalty.

**Limitations and Future Research Directions:** Primary limitation of this study was that it was based on a survey questionnaire. There could be variance between survey reporting and actual behavior. Hence, for future studies, simulating an experimental study to test the hypotheses is strongly recommended. Second, confirmation of the study results on a larger sample size not limited to Indian geography is also recommended.

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**Table**

<b>Construct</b>	<b>Operationalizing Statements</b>	<b>Scaled adapted from:</b>
<b>Brand Satisfaction</b>	i. This electronic brand offers good value for the price I paid. ii. This electronic brand provides customers with a good deal. iii. I consider this electronic brand to be a bargain for the benefits I am receiving.	(Lassar, Mittal, & Sharma, 1995)
<b>Brand Trust</b>	i. I trust this brand. ii. I rely on this brand. iii. This is an honest brand. iv. This brand is safe.	(Chaudhuri & Holbrook, 2001)
<b>Brand Equity</b>	i. It makes sense to buy this electronic brand instead of any other brand, even if they are the same. ii. Even if another brand has the same features as this electronic brand, I would prefer to buy this electronic brand. iii. If there is another brand as good as this electronic brand, I prefer to buy this electronic brand. iv. If another brand is not different from this electronic brand in any way, it seems smarter to purchase this electronic brand.	(Yoo, Donthu, & Lee, 2000)
<b>Price consciousness</b>	i. I am willing to make an extra effort to find a low price for electronic appliance. ii. I will change what I had planned to buy in order to take advantage of a lower price for electronic appliance. iii. I am sensitive to differences in prices of electronic appliances.	(Wakefield & Inman, 2003)
<b>Attitudinal Loyalty</b>	i. I am committed to this brand. ii. I would be willing to pay a higher price for this brand over other brands.	(Chaudhuri & Holbrook, 2001)
<b>Behavioral Loyalty</b>	i. I will buy this brand the next time I buy electronics. ii. I intend to keep on purchasing this brand.	(Chaudhuri & Holbrook, 2001)

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