Determinants of Customer Based Brand Equity in Indian Telecommunication Sector

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ABSTRACT

The concept of Customer-based brand equity (CBBE) has intrigued many researchers and practitioners in recent years. Customer based brand equity is considered a valuable asset since it plays significant role in the firm operation framework in building a stronger brand, predicting customers' purchase decisions irrespective of any businesses. Institutional changes, creation of extensive product/service portfolios, major changes in the ownership status, heavy use of modern technology, and globalization of the telecommunication sector have contributed rapid growth in the Indian telecommunication sector. India, today, is one of the fastest growing telecom markets and is currently considered as the second-largest telecommunication market of the world. The present study employed four dimensions of customer-based brand equity, namely, brand loyalty, perceived quality, brand awareness and brand association in determining the customer-based brand equity in Indian Telecommunication sector. The present study used a sample of 312 customers from north India. The findings in this paper supports the four dimensional model of customer-based brand equity in Telecommunication sector: Findings would help the managers to formulate strategies to improve their branding decisions in order to get more competitive advantages and business stability through more loyal customers.

Keywords: Customer based brand equity; brand awareness; brand loyalty; brand image; perceived quality; consumers; Telecommunication sector; India.

INTRODUCTION:

The Indian Economy is on a path of progress. The Indian economy is the sixth-largest economy in the world in terms of nominal GDP and the third-largest measured by purchasing power parity (PPP). According to United nation World Economic Situation and Prospects report (WESP) 2017, the Indian economy is expected to grow by 7.7% in 2017 and 7.6% 2018. Economic reforms such as infrastructure investment, public private partnerships, removal of restrictions on foreign direct investment and industrial delicensing have contributed to this growth. The above mentioned structural changes have also had a positive impact on the Indian telecommunication sector. In post liberalization era, the sector witnessed a high pace of growth and presently is world's most competitive and fastest growing telecom markets. At present, India is the second largest telecom market globally(IBEF, 2017). According to recent report of the Telecom Regulatory Authority of India (TRAI) 2016, total number of telecom subscribers in India has increased to 1,102.94 million on 31st Oct-2016. The overall teledensity (telephones per 100 people) has reached 86.25. Also, share of urban subscribers and rural subscribers telephone subscribers stands at 58.24% and 41.76% respectively Oct-16. Wireless services subscriber base stood at to 1,078.42 million million in quarter ending October-2016. Wireless Tele-density stands at 84.34. The Wireline Market has reached 24.52 million subscribers as on October -2016. According to TRAI report (2017), the private service providers captures 90.86% market share of the wireless subscribers. BSNL and MTNL, the two Indian PSU had a market share of 9.14%. M/s Bharti has maintained 1st position.
with market share of 24.32% in wireless subscriber market. M/s Vodafone is on 2nd position & M/s Idea is at 3rd position with market share of 18.72% & 17.17% as on 31st October-2016. The various telecom operators on the basis of market share are illustrated in Table 1:

Table 1: Market Share of Mobile Service Provider as on 31st October, 2016

| S.No. | Operator   | Market share (wireless) |
|-------|------------|-------------------------|
| 1     | Bharti     | 24.32%                  |
| 2     | Vodafone   | 18.72%                  |
| 3     | Idea       | 17.17%                  |
| 4     | Aircel     | 8.83%                   |
| 5     | BSNL       | 8.80%                   |
| 6     | Reliance   | 7.99%                   |
| 7     | Tata       | 5.17%                   |
| 8     | Telenor    | 4.94%                   |
| 9     | Reliance Gio | 3.30%              |
| 10    | Others     | 1.22%                   |

Source: www.trai.gov.in

The telecommunication sector is changing and is reflected in higher levels of concentration and competition. Further, there is lack of sources of competitive advantage in the industry because of limited sources for product differentiation or cost advantage. Customers are always looking for the best possible deals and in anticipations of receiving superior network coverage, innovative value added services, free long distance minutes etc. As a consequence, Indian mobile operators are facing fast churn by subscribers every month. Subscribers that churn choose number portability as one of various choices. Mobile number portability (MNP) is described as a feature that enables mobile telephone users to retain their mobile telephone numbers when changing from one mobile network operator to another without changing their Subscriber Identity Module (SIM) cards (Mbamalu, 2011, Buehler et al., 2006). In India, a subscriber is allowed to port their number every 90 days if they desire. As per TRAI Report (2016), 244.39 million Indian subscribers have submitted their request for porting their mobile number since the implementation of MNP. In the month of October 2016, number of subscribers who have submitted their request for MNP is 4.93 million. In response, telecomm operators are directing their strategies towards increasing customer loyalty through improved service quality. Companies are pursuing this strategy, in part, because of the difficulty in differentiating based on the service offering. Telecom operators have realized that unless customer expectations and needs are taken into account in designing and delivering services, technical superiority will not bring success. Therefore, operators are focusing their attention to identify customer needs and expectations which leads to high customer satisfaction. It is within this dynamic environment that customer based brand equity has emerged as an opportunity for the survival and growth of operators in telecom sector. It has become a significant prerequisite for satisfying and retaining valued customers in telecom sector. Customer based brand equity will result in customer satisfaction and loyalty with the product or service, greater willingness to recommend someone else, reduction in complaints and thus improving customer retention. In this context, the study attempts to examine the antecedents of customer based brand equity in Indian Telecommunication sector considering four dimensions, namely, brand awareness, brand loyalty, brand association, and perceived quality from customer perspective.

Conceptual Framework:
Undoubtedly owing to the strong bearing on a number of critical behavioural outcomes, brand equity has been the focus of marketing theory and practice. Building and sustaining brand equity is considered an imperative part of strategic brand management process (Keller, 1998). Brand equity is supposed to bring several benefits to a company. Brand equity is a powerful means of differentiation and developing sustainable competitive advantage for firms. There are numerous definitions for brand equity available in the literature but little agreement on exact definition of brand equity (Park and Srinivasan, 1994). According to available literature, brand equity can be defined and measured in two ways. Some definitions are based on the financial-perspective (Mahajan et al., 1990; Shocker and Weitz, 1988; Simon and Sullivan, 1993; Yoo and Donthu, 2001, 2002; Yoo et al., 2000). Other definitions are based on the consumer-perspective (e.g. Aaker, 1991; Keller, 1993; Rangaswamy et al., 1993). The consumer-related definition of brand equity can be divided into two groups: those involving consumer...
perceptions (perceptual dimension) such as brand awareness, brand associations or perceived quality; and those involving consumer behaviour (behavioural dimension) such as brand loyalty. Thus, when reflecting a consumer or marketing perspective, brand equity is referred to as consumer-based brand equity. Aaker (1991) and Keller (1993) used the term consumer-based brand equity to refer to brand equity. Keller (1993, p. 8) termed brand equity as customer-based brand equity and defined it as “the differential effect of brand knowledge on consumer response to the marketing of a brand”. However, Aaker (1991, p. 15) definition of brand equity is: “a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm and/or to that firm’s customers”. The concept of customer-based brand equity has gained significant importance since it creates specific associations in minds of consumers and reflects a general signal about the credibility of a particular brand in the market place.

According to study by Keller and Lehmann (2006), customer-based brand equity can mainly be captured by five aspects, namely, Brand awareness (ranging from recognition to recall); brand associations (encompassing tangible and intangible product or service considerations); perceived quality (ranging from acceptability to attraction); brand loyalty (ranging from loyalty to addiction); and brand trust (including purchase and consumption frequency and involvement with the marketing program, other customers through word of mouth, etc., or the company).

Present study utilizes brand awareness, perceived quality, brand loyalty and Brand Association to measure customer based brand equity in Indian Telecommunication sector. The main constructs related to customer based brand equity i.e. perceived quality, brand image, brand trust and brand awareness are defined as:

**Brand awareness:**
Brand awareness encompasses a scale ranging from an unclear sensation that the brand is unknown to faith that it is merely one in the product group (Aaker, 1996). Brand awareness is defined as consumers’ ability to identify or recognise the brand (Rossiter and Percy 1987). Keller (1993) conceptualised brand awareness as consisting of both brand recognition and brand recall. It reflects consumers familiarity about the availability and accessibility of a company’s products and services (Gustafson & Chabot, 2007). Past researches shows that brands with higher awareness and good image can persuade brand loyalty in consumers, and the greater the brand awareness is, the larger is its perceived quality (Lin, 2006; Lo, 2002; Monroe, 2003; Aaker 1991; Keller 1990).

H1. There is a significant relationship between brand awareness and customer based brand equity in Indian telecommunication Sector.

**Perceived quality:**
Parasuraman et al. (1985) have defined service quality as the extent to which a service meets or exceeds customer expectations. The perceived quality of the functional and the technical service dimensions, including tangible and intangible dimensions of the total offering, could influence the level of customer satisfaction (Nilsson et al., 2001; Bernhardt et al., 2000; Grönroos, 2000; Nicholas, et al., 1998). Both satisfaction and service quality are opined as predictors of customer behaviour like purchase intentions and word of mouth advertising (Dabholkar, 1995; Reichheld and Sasser, 1990) which are measures of loyalty. Although many telecom service firms, have been measuring customer satisfaction and service quality to determine how well they meet customer needs and requirements, understanding the nature of relationship with customer brand equity is of significant value to managers in telecom sector.

H2. There is a significant relationship between perceived quality and customer based brand equity Indian telecommunication Sector.

**Brand associations:**
Brand associations are believed to contain “the meaning of the brand for consumers” ((Keller, 1993, p. 3). Brand association is assumed to be related to information on what is in the consumer’s mind about the brand, either positive or negative (Emari et al., 2012). Manly researches showed that it acts as an agent for brand differentiation and brand extension (Osselaer and Janiszewski, 2001). Study conducted by Pouromid and Iranzadeh (2012) shows that the relationship between brand association and brand equity is positive and significant.

H3. There is a significant relationship between Brand Association and customer based brand equity Indian telecommunication Sector.

**Brand loyalty:**
Loyalty is a feeling of commitment on the part of the consumer to a product, brand, marketer, or services above and beyond that for the competitors in the market-place, which results in repeat purchase (Szymigin and
Carrigan, 2001). Oliver (1997, p 392) states that loyalty is “a deeply held commitment to re-buy or re-patronise a preferred product/service consistently in the future, thereby causing repetitive same brand set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior”. Past studies show links between brand loyalty and organization profitability, implying that any organization with loyal customers has considerable competitive advantage. Studies also show that acquiring loyal customers is important for all companies because of the future income it provides to have customers that will not change suppliers (Grönroos, 2000; Rust, Zeithaml and Lemon, 2000). In order to obtain brand loyalty a company needs to deliver superior value for its customers (Jones and Sasser, 1995; Reichheld, 1996) and also put efforts into engaging its customers more deeply with the business (Braun, 2002). Thus, it is important to understand the underlying forces that influence the brand loyalty of customers, such as their attitudes and changing needs. In this study, brand loyalty is measured as the intention to stay with their current network operator and the intention to recommend the operator to others.

H4. There is a significant relationship between brand loyalty and customer based brand equity Indian telecommunication Sector.

OBJECTIVES OF THE STUDY:

The main objective of study is examining the customer based brand equity in Indian Telecommunication sector considering four dimensions, namely, brand awareness, brand loyalty, brand association, and perceived quality from customer perspective.

RESEARCH METHODOLOGY:

Before conducting a final survey, a pilot study was carried out to identify and refine the measurement items used in the present study. A stratified sampling was used to select 400 customers i.e approximately equal numbers of customers from each firm. A total of 39 items were selected to measure customer based brand equity. Respondents were asked to assess items of four constructs (brand awareness, brand loyalty, brand image, and perceived quality) on a five-point Likert scale. In all, 312 questionnaires were considered valid for empirical analysis. Valid response rate was found to be 78.0 per cent for the present research.

Validity Analysis:

Preliminary inspection of Pearson’s correlation matrix for all the items of scale was found in having no problems with convergent and discriminant validity. Scale items belonging to the same construct had higher correlations (coefficients ranged from 0.612 to 0.847), while those relating to different constructs had lower correlations (coefficients ranged from 0.142 to 0.300). The reliability of a scale as measured by coefficient alpha. Coefficient-alpha values for the five scales were fairly high. Factor analysis with Principal Component Analysis with varimax rotation was carried out to determine the construct validity of the measures. Before running the technique on the data, it was examined whether the data was suitable for factor analysis or not. This is done by visual inspection of the correlation matrix and anti-image matrix. Bartlett’s test of sphericity and the KMO measure were further analyzed. It was found that Bartlett test of sphericity was significant and the Kaiser-Meyer-Olkin measure of sampling adequacy was larger than 0.6, which showed that the use of factor analysis was appropriate. The names of the dimensions/constructs, the statements labels and factor loadings are summarized in Table 4.

Evaluation of Reliability:

The internal consistency method (using Cronbach coefficient alpha) was used to examine the reliability of the five scales. The coefficients for the variables are shown in Table 4. For the purpose of basic research, a Cronbach alpha of 0.70 or higher is sufficient (Nunnally, 1978). Most of the scales exceeded the reliability threshold.

Respondent Profile:

| Table 2: Sample Characteristics |
|----------------------------------|
| Age    | n   | %   |
| <25    | 100 | 32.05 |
| 25-34  | 85  | 27.24 |
| 35-44  | 70  | 22.43 |
| >45years | 57  | 18.27 |
A total of 400 questionnaires were dispersed to collect data from respondents. After coding and editing, a total of 312 questionnaires were found usable for analysis. It can be seen in Table 2, the sample consists of almost equal males (55.1%) and females (44.9%). Majority of the respondents (70.0%) were found to be more than 35 years of age. About 32.0% of the respondents earned a salary of less than 20,000 a month. Most of the respondents have achieved at least university degree/Bachelor degree (49.4%). There are more respondents who were married (61.54%) than singles (38.46%). Around 49.4% of the samples are on job.

**Profile of Service Operators:**
Since, the information given by the respondents had to be treated as confidential, therefore, names of the service operators were disguised as Telco 1 to Telco 6, as shown in Table 3.

| Table 3: The Frequency Table of the Service Provider |
|-----------------|-----------------|-----------------|
| **N=312**       | **No of respondents** | **%**       |
| **Current operator** |                   |                   |
| Telco 1          | 60               | 19.23           |
| Telco 2          | 45               | 14.42           |
| Telco 3          | 40               | 12.82           |
| Telco 4          | 35               | 11.22           |
| Telco 5          | 35               | 11.22           |
| Telco 6          | 35               | 11.22           |
| Others           | 62               | 19.87           |
| **No of years subscribed** |                   |                   |
| < 6 months       | 78               | 25.0            |
| 6 months - 1 year| 69               | 22.1            |
| 1- 2 years       | 63               | 20.2            |
| > 2 years        | 102              | 32.7            |
| **Type of connection** |                   |                   |
| Prepaid          | 152              | 48.7            |
| Postpaid         | 160              | 51.3            |
| **Total**        |                   |                   |

| Monthly Billing |
|-----------------|-----------------|-----------------|

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Descriptive Statistics:
The means and standard deviations of the variables included in this study are illustrated in Table 4. The mean score is the simple average of items included in the construct. The mean scores ranged from 2.27 to 4.40. The smallest standard deviation was above the critical value of 0.5 (Nunnally, 1978). Thus, the means and standard deviations appear to be acceptable.

| N=312 | No of respondents | %  |
|-------|-------------------|----|
| Less than Rs.500 | 146 | 46.8 |
| Rs.501-1000 | 88 | 28.2 |
| Rs.1001 or more | 78 | 25.0 |
| Total | 312 | 100.0 |

Table 4: Results of Factor Analysis, Reliability Analysis, Mean and Standard Deviation

| Statements                                                                 | Dimension     | Factor Loading | Mean  | Std. Deviation |
|---------------------------------------------------------------------------|---------------|----------------|-------|----------------|
| **Perceived Quality Scale**                                              |               |                |       |                |
| When Telecomm operator promises to do something by a certain time, it does so | Reliability   | .634           | 2.8462| .88830         |
| When you have a problem, Telecomm operator shows a sincere interest in solving it | Reliability   | .591           | 3.0449| .84505         |
| Telecomm operator performs the service right the first time               | Reliability   | .506           | 2.8397| 1.05645        |
| Telecomm operator performs the service at the time it promises to do so   | Reliability   | .676           | 3.0705| 1.02933        |
| The Billing of Telecomm operator is fair & reliable                      | Reliability   | .538           | 4.2051| 1.02055        |
| Telecomm operator keeps customers informed about when services will be performed | Responsiveness | .621           | 3.3269| .93093         |
| Employees in Telecomm operator give you prompt service                   | Responsiveness| .430           | 2.9551| 1.14915        |
| Employees in Telecomm operator are always willing to help you            | Responsiveness| .675           | 3.0449| 1.04938        |
| Employees in Telecomm operator are never too busy to respond to your request | Responsiveness | .506           | 2.8333| 1.00215        |
| The behavior of employees in Telecomm operator instills confidence in you | Assurance      | .510           | 2.8397| .99998         |
| You feel safe in your transactions with Telecomm operator               | Assurance      | .609           | 3.4904| 1.16914        |
| Employees in Telecomm operator are consistently courteous with you       | Assurance      | .795           | 3.3949| .93203         |
| Employees in Telecomm operator have the knowledge to answer your questions | Assurance      | .769           | 2.7452| .87636         |
| Telecom operator gives you individual attention                           | Empathy        | .741           | 3.3654| .88052         |
| Telecom operator has employees who give you individual attention         | Empathy        | .635           | 3.1410| 1.01885        |
| Telecom operator has your best interests at heart                         | Empathy        | .566           | 3.6026| .74209         |
| Employees of Telecomm operator understand your specific needs            | Empathy        | .734           | 3.1859| .84856         |
| Telecom operator has modern-looking equipment                             | Tangibles      | .612           | 3.4808| .79896         |
| Telecom operator's physical facilities are                               | Tangibles      | .644           | 3.1410| .98668         |
| Statements                                                                 | Dimension       | Factor Loading | Mean     | Std. Deviation |
|---------------------------------------------------------------------------|-----------------|----------------|----------|----------------|
| **Perceived Quality Scale**                                              |                 | AVE=67.39%     | α=0.799  |
| visually appealing                                                        |                 |                |          |                |
| Telecomm operator’s employees appear neat                                 | Tangibles       | .684           | 3.5256   | 1.00610        |
| Materials associated with the service (such as pamphlets or statements)   | Tangibles       | .658           | 3.2564   | .90783         |
| are visually appealing with Telecomm operator                            |                 |                |          |                |
| Telecomm operator has convenient business hours                           | Product Quality | .759           | 3.3077   | 1.05717        |
| Telecomm operator gives you good Network Quality                         | Product Quality | .859           | 2.8974   | 1.14260        |
| Telecomm operator provides full Network Coverage                         | Product Quality | .783           | 3.2692   | 1.11498        |
| I trust the Telecomm operator                                            | Product Quality | .623           | 3.7308   | 1.07970        |
| The National & International Roaming Services provided by Telecomm operator are excellent | Product Quality | .886           | 3.6731   | .99134         |
| **Brand awareness Scale**                                                | AVE=62.12%      | α=0.741        |
| I have heard of this brand.                                               | Brand awareness | 0.670          | 4.1667   | .81255         |
| I am aware of this brand.                                                 | Brand awareness | 0.799          | 4.3269   | 1.0435         |
| I frequently think of this brand                                          | Brand awareness | 0.805          | 4.2500   | .84202         |
| I can quickly recall the logo of my bank                                  | Brand awareness | 0.737          | 4.14     | .93263         |
| **Brand Loyalty Scale**                                                   | AVE=63.73%      | α=0.738        |
| I recommend Telecomm operator to people                                   | Brand Loyalty   | .849           | 3.0127   | 1.06811        |
| I encourage my friends to buy the operator connection                      | Brand Loyalty   | .582           | 2.8407   | 1.10656        |
| I would like to stay with Telecomm operator even if it increases or decreases its charges | Brand Loyalty | .722 | 3.1911 | 1.29166 |
| I would like to switch to some other operator if Telecomm operator does not provide good services | Brand Loyalty | .692 | 2.2738 | 1.30389 |
| I consider myself loyal to this brand                                     | Brand Loyalty   | .665           | 3.3365   | 1.24190        |
| **Brand Association Scale**                                              | AVE=68.70%      | α=0.700        |
| The Telecomm operator is stable & firmly established                      | Brand Association | .765    | 3.8280 | .76943         |
| The company does business in an ethical way.                              | Brand Association | .672 | 3.0321 | .87052         |
| The company is successful and self-confident.                             | Brand Association | .719 | 3.4777 | .93771         |
| Telecomm operator is innovative & forward looking                         | Brand Association | .717 | 2.9490 | 1.13677        |
| **Customer Based Brand Equity Scale**                                     | AVE=76.70%      | α=0.874        |
| It makes sense to buy services from present operator instead of any other brand, even if they are the same. | Brand equity | 0.876 | 3.4872 | 1.17030 |
Statements

| Statements                                                                 | Dimension       | Mean   | Std. Deviation |
|---------------------------------------------------------------------------|-----------------|--------|---------------|
| Even if another telecom operator has the same features and services as mine, I would prefer to stay with present | Brand equity    | 0.794  | 3.3910        |
| If there is another service operator as good as my present, I prefer to stay with present operator. | Brand equity    | 0.868  | 2.7372        |
| If another operator is not different from present operator in any way, it seems smarter to stay with present operator | Brand equity    | 0.776  | 4.4071        |

Correlation and Regression Analysis:
Table 5 highlights the Pearson’s correlation coefficients for the corresponding dimensions specified in the hypotheses. The results show support for all the hypotheses, H1 to H4. It can be concluded that all the proposed constructs i.e. Brand awareness (β=0.380, p≤.05), brand association (β=0.541, p≤.05), brand loyalty(β=0.727, p≤.05), perceived quality (β=0.815, p≤.05) were found to affect customer based brand equity in Indian Telecommunication sector . Preliminary analysis revealed that there was no violation of the assumption of linearity and homoscedasticity and all associations were found to be significant at 95% level.

Table 5: Pearson Correlation Analysis Results.

| Hypothesis | Relationship hypothesized | Pearson Correlation Analysis Results |
|------------|---------------------------|--------------------------------------|
| H1         | Brand Awareness and Customer Based Brand Equity ------positive | r =0.380 p≤ 0.05                      |
| H2         | Perceived Quality and Customer Based Brand Equity -------positive | r =0.815 p≤ 0.05                      |
| H3         | Brand Association and Customer Based Brand Equity -------positive | r =0.541 p≤ 0.05                      |
| H4         | Brand Loyalty and Customer Based Brand Equity -------positive | r =0.727 p≤ 0.05                      |

Note: Sample size = 312

Regression Analysis:
In the subsequent step, to identify which aspects i.e Brand awareness, Brand Association , Brand loyalty, perceived quality have a stronger influence on the customer based brand equity, multiple regression analysis was carried out . In the model, four dimensions measured by 39 items served as the independent variables and customer based brand equity as the dependent variables. The model was found to be significant at p≤.05 level and the adjusted R2 =0.704 .Table 6 shows the betas which indicate the variables’ explanatory power. Four constructs were significant (at p ≤ 0.05 level) in explaining customer based brand equity. These constructs, based on their importance in as indicated by their beta coefficients, are perceived service quality (β=0.487) , Brand loyalty (β=.365), brand association (β=.223) and brand awareness (β=.219) . All of the coefficients are in the expected direction. The results show support for hypotheses, H1, H2, H3, H4. The independent variables were also checked for multicollinearity. A multicollinearity problem is likely to occur when explanatory variables correlate with each other. If a high degree of correlation exists, it is then difficult to determine the contribution of each independent variable, because their effects are confounded (Hair et al., 1995). A common measure for assessing pairwise and multiple variable collinearity is the variance inflation factor (VIF), which tells us the degree to which each independent variable is explained by the others. Normally a set of explanatory variables is highly correlated if tolerance is low and VIF exceeds ten, thus presenting a multicollinearity problem (Hair et al., 1995). The tolerance of an independent variable ( TV) is an additional method to measure the effects of multicollinearity in a data set. The closer the tolerance of variable value to one indicates independence, and if the tolerance value is close to zero, the variables are multicollinear. Hence
Tolerance Value (TV) and Variance Inflation Factor (VIF) for each explanatory variables were used to measure multicollinearity. The multicollinearity diagnosis statistics were listed in Table 6. It can be seen that tolerance value is towards the higher side and VIF does not exceed the recommending limit.

**Table 6: Antecedents of Customer Based Brand Equity — Stepwise Regression Results.**

| Independent Variable | Standardized Regression Coefficients | T-value | Significance Probability | TV | VIF |
|----------------------|--------------------------------------|---------|--------------------------|----|-----|
| Constant             | .878(.277)                           | 3.169   | .002                     |    |     |
| Brand Awareness      | 0.219                                | 4.642   | .000                     | .748| 1.369|
| Perceived Quality    | 0.487                                | 13.559  | .000                     | .737| 1.333|
| Brand Association    | 0.223                                | 6.607   | .000                     | .780| 1.832|
| Brand loyalty        | 0.365                                | 10.492  | .000                     | .836| 1.048|
| Multiple R           | 0.841                                |         |                          |    |     |
| R²                   | 0.707                                |         |                          |    |     |
| adjusted R²          | 0.704                                |         |                          |    |     |
| Durbin–Watson Test   | 1.796                                |         |                          |    |     |
| F                    | 247.510                              | .000    |                          |    |     |
| Sample Size          | 312                                  |         |                          |    |     |

* Beta co-efficient is the standardised regression co-efficient which allows comparison of the relatives on the dependent variable of each independent variable.

** t-statistics help to determine the relative importance of each variable in the model.

**DISCUSSION AND MANAGERIAL IMPLICATIONS:**

The purpose of the study was to develop a model that will include perceived quality, brand association, brand loyalty and brand awareness and explain their impact on customer based brand equity in Indian Telecommunication industry. Overall the research support for four hypothesized relationships in our proposed model. The study implies that telecommunication sector should significantly consider perceived quality, brand association, brand loyalty and brand awareness when attempting to establish brand equity from the customer’s perspective. The critical role of perceived quality was strongly established. Telecomm companies that excel in quality service can have a distinct marketing edge since improved levels of service quality are related to higher revenues, increased cross-sell ratios, higher customer satisfaction and retention, and expanded market share. When quality of services is perceived to be high, consumers are satisfied and more likely to stay with the service provider. They would not be looking around if they were happy with their current provider, its service and employees. Also, where customers perceive that the service quality offered by mobile provider is higher, they will have increased satisfaction, which will in turn lead to a higher customer loyalty. The companies should understand that network coverage, quality of services, quality of phone call, quality of value added services (SMS, VAS, MMS) are the reason of consumers to remain with the current operator. Equally important, every time a company reaches a certain level of customer service quality, customer expectations also rise. It is necessary for the companies to have a policy of ongoing service improvement if it is to stay ahead of its competitors. In order to create repurchase intention, managers must focus on brand loyalty in developing strategies for developing brand equity. Brand loyalty will help in creating trust among customers by fulfilling their expectation or going beyond their expectations. Managers should pay more emphasis on brand awareness. They can use both traditional (television, radio, print) and contemporary communication channels (social media tools, Facebook, Twitter, etc.) in order to improve their brand awareness. The higher the brand associations in the product, the more it will be remembered by the consumer and be loyal towards the mobile operator. As we know, competitive tariff rates offered by different mobile operator are comparable. Therefore, customer base brand equity will help in brand positioning, retaining customers and long term cash flows. Telecom operators should try to provide customized solution to address the definite needs of customers.

As per census 2001 census data, India has large proportion of population in the younger age groups. Around
35.3% of the population of the country has been in the age group 0-14 years and 41% of the population falls under less than 18 years of age. Various studies found that brand association and brand loyalty are the vital factors affecting young consumers’ brand equity. Hence, marketers and practitioners should focus on these two factors in gaining young customer positive acceptance of the mobile services and operator. Internet through GPRS / EDGE has become the newest obsession among youngsters who navigate on twitter, facebook, instagram to interact with their online friends and colleagues. Innovative mobile added services such as entertainment (chats, video downloads, ring-back tones), gaming, multimedia content delivery and conferencing services will help the companies to target young customers and increased their company’s profitability. Based on positive usage experience, they would recommend the mobile services to others through the social media or word of mouth communication. Marketers and practitioners can focus on loyalty programmes in the social media in order to retain customers and foster business profitability.

To conclude, the telecommunication industry’s role in Indian economy cannot be underemphasised. It can be said that brand equity is critical variable for GSM operators to establish a loyal customer base. Managers in telecommunication sector need to understand the important role of customer based rand equity in the development and implementation of marketing strategies aimed at building and maintaining market share.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH:

The foregoing recommendations should be considered in the light of some of the limitations of this study. Firstly, owing to the telecommunication sector focus of this study, these results may not be generalizable to other service industries. As stated loyalty been found to change over time, a cross-sectional research design does not offer nearly the same insight into the dynamics of customer relationships with a firm as a longitudinal design. A longitudinal design would afford greater insight. Considering some of variables in might generate some additional insight.

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