Mediating model of brand equity and its application

Modelo mediador del valor de marca y su aplicación

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Abstract

Purpose – This paper aims to examine the mediating role of brand satisfaction and brand trust in brand equity antecedents and outcomes through an empirical investigation of brand equity elements.

Design/methodology/approach – A survey was conducted in Pune and Mumbai, two prominent cities of India. A structured questionnaire focussed on garnering responses on measuring brand equity antecedents and outcomes was circulated to the cell phone users. The questionnaire aimed to assess the role of two additional variables, namely, brand satisfaction and brand trust, in the existing and the conceptual model of brand equity (Keller, 2001). Based on the data analysis, a structural equations path and the mediating model were developed.

Findings – The findings of this study show that the new brand equity model is highly relevant in predicting brand equity as compared to the existing brand equity model (Keller, 2001). The brand equity mediation model clearly elucidates the role of brand trust and brand satisfaction.

Research limitations/implications – With reference to a theoretical contribution, the study broadens the existing hypothetical model of brand equity. The findings of this research provide a strategic and analytical model for brand managers to build brand relationships among their consumers.

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The present study challenges the existing model of brand equity (Keller, 2001) and further makes an effort to fill in the gaps in the existing theoretical model of brand equity.

Keywords: Brand satisfaction, Brand equity, Path analysis, Brand trust, Mediation analysis

Paper type: Research paper

1. Introduction

Creating an effective brand is a challenging endeavour (Klink, 2003; Veloutsou and Guzmán, 2017). Consumers form relationships with brands because they serve a purpose (Fournier, 1998) and brands help consumers to communicate about themselves (Dibb and Simkin, 2008). Brand resonance is the extent to which a consumer develops strong behavioural, psychological, and social bonds with the brands he/she consumes (Keller, 2001; Rindfleisch et al., 2006).

Brand equity has been examined from two different perspectives - financial and customer based (Keller, 1993; Lassar et al., 1995). Keller (2001) introduces the customer-based brand equity model, which drives customers from brand identity to brand relationship. There has been significant work done in the field of consumer brand relationships in the past few decades and it is still an emerging research area. Brand Relationship allows one to understand how people make long-term commitments to inanimate objects that they buy and consume (Kumar, 2006). On the backdrop of the available literature on brands and branding, the present study aimed to explain the application of a conceptual model, to comprehend the selection of brand by customers which is crucial for realising the concept of brand resonance in the arena of brand management.

The contribution of this study to the literature is twofold; first, the present study examines the existing and conceptual models of brand equity (Keller, 2001, 2016). Second, the study has introduced a new model in the area of brand management. The model is anticipated to have significant utility value for both, brand managers and research scholars, who need to investigate the level of brand equity among their consumers. With the expanded brand equity model, that manager can predict the bearing that antecedents and
mediators of brand equity have on the brand equity outcomes of their respective brand/s.
The findings of the present study wherein, the influence of two new variables namely brand satisfaction (Sheth and Parvatiyar, 1995; Chaudhuri and Holbrook, 2001) and brand trust (Selnes, 1998; Moisescu and Allen, 2010) was tested, may help brand managers to augment a consumer’s attachment to a brand, thereby providing a boost to brand equity outcomes as a whole. Marketing professionals too, can employ the conclusions of this study for developing better branding strategies.

Further, present empirical research is structured as follows: The next section present an overview of the relevant literature from which the research framework and research assumptions are derived. Further, the methodology used to guide this study is briefly reviewed, and the research findings are outlined. Study also presents a discussion of results and managerial implications with conclusion. Finally, research limitations and future research scope are highlighted.

2. Theoretical framework of the study
Keller (1993, 2001, 2002, 2008, 2016) made a significant contribution to the theory of branding with the introduction of the concept of Customer-Based Brand Equity (CBBE) or brand resonance and brand hierarchy. Brand equity is the effect that brand knowledge has on the consumer’s response to the marketing of a brand, observed when the brand becomes known and when the consumer possesses favourable, strong and unique brand associations. The Customer-Based Brand Equity model identifies four steps that symbolise the questions asked to customers and represents a ‘branding ladder’, where fulfilment of each step was subject to the achievement of the previous one (Keller, 1993, 2001). These steps are construed out of the six brand building blocks, inclusive of a few sub-dimensions. A strong brand is built at the pinnacle of the pyramid where a harmonious relationship exists between ‘customers’ and ‘brand’. It is understood that brand resonance encompasses a wide range of brand-related activities and orientations – from mere repeat purchase to deep emotional ties (Aaker, 1995; Keller et al., 2011).

According to Keller (2001, p.19), brand resonance is characterised by intensity or depth of the psychological bond that customers have with the brand and the level of activity engendered by this loyalty. Brand resonance therefore refers to the nature of the relationship that customers have with the brand. It plays a crucial role in customer relationship management and the development of sustainable brand equity between customers and a brand (Moore and Wurster, 2007). The above literature on brand resonance equates it with brand relationship; and it has been observed that management researchers often use the concept of brand resonance interchangeably with brand relationship (Keller, 2001; Moore and Wurster, 2007; Keller et al., 2011; Ruževičiūtė and Ruževičius, 2010; Aziz and Yasin, 2010; Pawar and Raut, 2012).

2.1 Brand equity model
Brand equity has been discussed extensively in various marketing literature (Aaker, 1991; Keller, 2001; Sriram et al., 2007; Park et al., 2010; Davcik et al., 2015; Lee et al., 2015; Chatzipanagiotou et al., 2016; Mohan et al., 2017) which outlines the different perspectives on the factors that influence brand equity. Indeed, academic debate is inconclusive about the conceptual foundations affecting the factors and measures of brand equity (Davcik, 2013). There is a lack of clarity in the varied branding literature regarding how managers may utilise brand equity constructs to measure and improve the efficiency of various brand equity elements. Prior literature on the crucial conceptual model is indicative of the fact that
its application has not yet been considered in analysis of the general brand relationship practices (Keller et al., 2011; Davcik, 2013; Raut and Brito, 2014).

Each element of brand equity is important in building up brand equity among consumers (Keller, 2001, 2011). According to Kim (2012), the multi-dimensional prospect of brand experience can be manipulated through brand resonance constructs. Brand experiences also provide an insight into the hierarchical composition of the customer’s cognitive, affective and behavioural dimensions too which helps to build positive brand equity (Mohsin et al., 2017; Castañeda García et al., 2018). For instance, Choudhury and Kakati (2014) concluded that with reference to the brand equity model, brand experience, brand loyalty and brand performance contribute positively and there is a definite relationship between various brand elements and brand equity.

Figure 1 depicts the Keller (2001) model of brand equity. The first step in building brand equity is to create brand saliency in the mind of the consumer. Brand salience or brand awareness refers to aspects of awareness of a brand, such as top-of-the-mind awareness of a brand, retrievability of a brand, and the overall strength of awareness. A brand with high awareness is characterised as having great depth and breadth of brand awareness (Keller, 2001); yet brand awareness alone, may not be a sufficient driver for consumers to purchase. For instance, Clark et al. (2009) found a relationship between perceived quality and brand awareness. Brand awareness also acts as the starting point for cognitive building of the meaning of brand among the consumers (Keller, 2001).

The second step in building brand equity is the creation of a product that meets or exceeds the functional, psychological or social needs of the consumer. Optimal performance of a brand viz-a-viz its image is the key to achieve a strong brand relationship. On the whole, greater brand knowledge leads to a better understanding of the meaning of brand for consumers (Keller et al., 2011). The third step in building brand equity is eliciting consumer responses to a brand, using brand judgments and brand feelings. Brand judgments refer to the cognitive evaluation of the overall superiority, quality, credibility, and consideration of a brand. Brand feelings refer to the evocation of the feelings and emotions of consumers to themselves and others due to the brand (Keller, 2001, 2016). Obviously then, the aspect of brand response evaluates the impact of functional and symbolic aspects of the brand on its consumers. The judgments and feelings of consumers about the brand influence the relationship and level of identification that they have with the brand.

The final step in the consumer-based brand equity model refers to the characteristics of the relationship between the consumer and the brand. This fourth dimension of brand equity...
Equity is labeled as brand resonance, which comprises brand loyalty, brand attachment, brand community, and brand engagement. Brand loyalty and brand attachment are distinguished as the psychological bond the consumer shares with the brand, as well as the intensity with which the consumer intends to consume the brand. Brand community signifies the level of connection or engagement that the consumer shares with other consumers of the brand. Engagement with these brand communities illustrates the affinity and level of effort the consumer is willing to engage in, on account of the brand. Finally, brand engagement refers to the resources that consumers are willing to invest, on behalf of the brand, beyond purchase and consumption (Keller, 2001; Keller et al., 2011).

From the literature mentioned above it may be surmised that brand resonance is related to brand relationship (Rindfleisch et al., 2006; Bourbab and Boukili, 2008; Keller et al., 2011; Stratfold, 2012). Management researchers define brand resonance as the nature of the relationship that customers have with the brand (Keller, 2001; Keller et al., 2011). They also perceive it as the association between consumers and their brand (Stratfold, 2012) or a strong behavioural, psychological and social bond between consumers and their brands (Rindfleisch et al., 2006). Brand resonance is also understood as the level of identification that a consumer has with a brand (Bourbab and Boukili, 2008).

### 2.2 Outcomes of brand equity

Brand loyalty is viewed as a distinct component of brand equity (Aaker, 1991; Aaker, 1995; Anderson and Kumar, 2007; He et al., 2014) and has been repositioned as a potential consequence of brand equity. Nonetheless, Keller (1993) did not include brand loyalty as a distinct component of brand knowledge. He believed that brand knowledge notably consisted of brand associations and brand awareness. According to Kuikka and Laukkanen (2012), brand satisfaction is the most influential factor in building brand loyalty. Ferreira and Coelho (2015) found that price perception has a significant relationship with brand loyalty, but not always as expected. Yoo et al. (2000, p. 205) noted that brand loyalty might be more related to brand equity than some of the other components.

Brand attachment represents a particular kind of consumer-brand relationship (Belaid and Behi, 2011). Brand attachment is the strength of the bond connecting the ‘brand’ with the ‘self’ (Park et al., 2010). The consumer buys the same brand almost exclusively, when he/she is attached to the brand (McQueen et al., 1993). It was found that the brand attachments can influence brand outcomes (Fournier, 1998; Dwivedi et al., 2018). Brand attachment constitutes the fundamental element of the consumer-brand relationship (Fournier and Yao, 1997), which leads to strong brand equity (Keller, 2001).

Brand communities are most likely to form around products that are consumed publicly and they include consumers who share a high level of commitment to the target brand (Muniz and Guinn, 2001). Authors have posited that there is a link between consumer loyalty and brand community (Oliver, 1999; Muniz and Guinn, 2001; McAlexander et al., 2002). Sharing is a strong expression in social media and it is a method by which online brand community members exchange experiences and ideas, or just interesting content (Dessart et al., 2015). Empirical evidence has shown that a brand community may share a robust relationship with brand equity and its dimensions (Yoo et al., 2000).

Brand engagement can be a strong indication of strong brand loyalty; this is when consumers are willing to put in their time, effort and money in pursuit of consuming the brand (Keller, 2001). Such expenditure exceeds the average amount spent to consume the brand and indicates a willingness to give up aspects of personal performance in the dogged pursuit of a single target brand. This concept is similar to Oliver’s (1999) description of action loyalty. Action loyalty represents the highest stage of consumer loyalty toward a
product and is characterised by intense oppositional brand loyalty. Brand-engaged consumers offer word of mouth support on social media for a brand, if the brand resonates with their inner selves (Wallace et al., 2014). Brand resonance is reflected in awareness, brand performance, brand image, brand feelings and brand judgment, while brand loyalty, brand attachment, brand community, and brand engagement are considered as outcomes of brand equity (Keller, 2001; Keller, 2008; Kumar et al., 2013; Raut and Brito, 2014). In line with existing research, it is assumed that:

\[ \text{RA1. A brand equity antecedent has a positive effect on brand equity outcomes.} \]

2.3 Conceptual mediating model of brand equity
The construct of brand equity was first highlighted by Keller in 1993. He later explained brand equity with his consumer-based brand equity model (Keller, 2001, 2016). Various cross-sectional studies have focussed on the brand equity construct with online companies (Rios and Riquelme, 2008), higher education (Mourad et al., 2011; Herrero-Crespo et al., 2016), politics (Phipps et al., 2010), services (Krishnan and Hartline, 2001), logistic services (Yasin et al., 2007; Davis et al., 2009; Loureiro and Kaufmann, 2017), social media (Dwivedi et al., 2018), hotels (Castañeda García et al., 2018), banking and financial services (Mohsin et al., 2017; Loureiro, and Sarmento, 2018), retail (Çifci et al., 2016) and fashion brands as well (Ekinci et al., 2017). From among the various studies conducted on brand equity, a few lay emphasis on the mediating role of diverse factors of brand equity including consumer brand experience (Sheng and Teo, 2012; Choudhury and Kakati, 2014; Mohsin et al., 2017; Castañeda García et al., 2018), quality of service (He and Li, 2010) and brand image (Gill and Dawra, 2010).

Literature from various fields such as relationship marketing, branding and retailing, is illustrative of the fact that there is a significant relationship between satisfaction and trust (Johnson and Auh, 1998; Caceres and Paparoidamis, 2007; Veloutsou, 2015). The findings of Garbarino and Johnson (1999, p. 80) highlight the fact that satisfaction leads to trust in different ways in different products and services. If consumers are satisfied with a product or service, they are likely to trust that particular product or service (Ganesan, 1994; Geyskens et al., 1999). Selnes (1998) espoused that satisfaction has a significant effect on trust.

Brand trust and brand satisfaction develop brand reliability (Blackston, 1992; Kumar et al., 2013). Given that satisfaction and trust are responsible for building a relationship (Larzelere and Huston, 1980; Morgan and Hunt, 1994; Fuentes-Blasco et al., 2017), it leads to an increase in the value of that relationship (Chaudhuri and Holbrook, 2001; Moisescu and Allen, 2010) The existing literature on branding is suggestive of the idea that brand trust is based on the consumer-brand relationship (Sheth and Parvatiyar, 1995) and that brand satisfaction also affects the brand relationship similar to brand trust (Moisescu and Allen, 2010). Brand trust is a dimension which has received wider attention from researchers to assess customer-based brand equity (Kumar et al., 2013). The brand satisfaction continues to be well-researched and there is a general agreement that brand satisfaction is positively affect brand equity (Pappu and Quester, 2006). The findings suggest that there is a healthy positive relationship between brand trust and brand relationship (Chaudhuri and Holbrook, 2001) and brand trust affect the brand equity as well (Delgado-Ballester and Munuera-Aleman, 2005). Across disciplines, there is also an agreement that trust is intrinsic in an uncertain and risky environment. Brand trust is most relevant in a risky situation when the outcomes of a particular decision are uncertain, yet vital for the individual or organisation (Matzler et al., 2006; Kumar et al., 2013). Its antecedents explain the variation in brand equity.
to some extent, and there may be other factors that may explain brand equity differently in the context of different goods and services (Gautam and Kumar, 2012).

The analysis of moderation or mediation effect is generally attempted in conceptual ground, but it ought to be accompanied with a strong theoretical perspective. Unfortunately, this is often not the case, and many a times, it is the researcher’s call to attempt to build a conceptual model rather than to simply test it on theoretical grounds (Fraser et al., 2004). In many studies, it has been observed that researcher has tried to analyse whether the construct can act as a moderator or a mediator, knowingly or unknowingly to the theoretical foundation (Venkatraman, 1990). Present study tested the brand equity model in the present market setting, by adding brand satisfaction and brand trust, two variables to known their mediating role with brand equity antecedents and outcomes (Keller, 2001; Pappu and Quester, 2006; Moisescu and Allen, 2010; Raut and Brito, 2014). Notwithstanding, the literature on branding rarely focuses on the mediating role of two important relationship metaphors i.e. brand trust (Chaudhuri and Holbrook, 2001; Delgado-Ballester and Munuera-Aleman, 2005; Huang, 2017) and brand satisfaction (Szymanski and Henard, 2001; Moisescu and Allen, 2010). Therefore the prime objective of the present study is to identify the mediating role of brand trust and brand satisfaction vis-à-vis the brand equity antecedents and outcomes. In the light of the above arguments the following assumptions have been made:

RA2. Brand satisfaction mediates the relationship between brand equity antecedents and brand equity outcomes.

RA3. Brand trust mediates the relationship between brand equity antecedents and brand equity outcomes.

The above Keller (2001) model of brand equity (Keller, 2001; Caceres and Paparoidamis, 2007; Keller, 2008) designates the relationship between brand equity antecedents and outcomes. It also revealed the mediating role of brand satisfaction and brand trust between brand equity antecedents and outcomes. It was crucial to determine the effect of brand satisfaction and brand trust on brand equity (Chaudhuri and Holbrook, 2001; Matzler et al., 2006). The present study empirically analysed the existing (Keller, 2001) and the mediating model of brand equity to ascertain the role of brand satisfaction and brand trust on brand equity antecedents and outcomes.

3. Methodology

This study aimed to show the efficacy and applicability of the extended conceptual model, based on prior brand equity studies (Keller, 2001; Park et al., 2010; Lee et al., 2015; Mohan et al., 2017). Over the last two decades, India has already witnessed a steady influx of ‘foreign brands’ (Mukherjee and Patel, 2005). The success of brands in India has been depends on how brands are perceived and used by Indian consumers. A few studies have been conducted on Indian consumers’ decisions regarding brands (Batra et al., 2000; Kinra, 2006); however, these studies failed to investigate the aspect of how Indian consumers build brand equity. Though Kumar et al. (2009) examined Indian consumers’ perception of various brands, their research did not employ brand equity as a dominant construct. Furthermore, many of the accepted brand relationship concepts were not applied to Indian consumers (Sahay and Sharma, 2010). A developing market like India has five distinct features – market heterogeneity, socio-political governance, chronic shortage of resources, unbranded competition and insufficient infrastructure, that are quite different from the developed economies (Sheth, 2011). Given the fact that the Indian consumer base is different from rest
of the world, due to rapidly increasing middle class consumers, development of modern urban lifestyles and increasing purchasing power, thus consumers research in this area may lead to different results (Lee et al., 2010; Sahay and Sharma, 2010). Eventually, it is also a contribution to the existing body of literature.

3.1 The approach

The current study was executed in two phases. In the first phase, this research adopted and validated the measures from the original scale (Table AI) through a pilot study which confirmed the statistics for reliability and validity of accepted measures as the basis for the final study. For pilot study total sample of 240 respondents were used (Kline, 2015; Lee and Song (2004). The pilot data were collected in December 2017. The pilot data were collected from two metropolitan cities of India, namely, Pune and Mumbai.

In the second phase, study used a direct approach and formulated a well-structured questionnaire with the use of measures validated in the pilot study. A tentative set of assumptions was tested on statistical grounds. The questionnaire developed with validated measurement scales from the pilot study, was used as the research instrument. All responses were measured on a seven-point Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). The purpose of the study was explained in brief to the respondents at the beginning of the data collection process. This was followed by the delivery of the questionnaire and collection of the duly filled in questionnaires.

3.2 The sample

Currently, India is a hub for luxury brands, and a majority of Indian consumers are likely to be concerned about social status when considering a brand (Shukla et al., 2015). The study conducted by O’Cass and Lim (2002, p. 65) argued that consumers from different cultural origins hold different perceptions of brands, proposing a culture of origin as a crucial intrinsic cue in the evaluation of brands. The present research considered the Indian consumer as the ‘universe’ and ‘cell phone consumers’ as the sampling unit. The survey was undertaken in several shopping malls in Pune and Mumbai where cell phone users were easily accessible. The convenience sampling method was applied to identify and choose the respondents. A total of 600 personal surveys were conducted with the help of well-structured questionnaire. Later on, 40 responses were eliminated on account of incomplete information or visible manipulations in data (Wingersky and Lord, 1984) thus reducing the sample size to 560 (Krejcie and Morgan, 1970; The Research Advisors, 2006). The final data were collected in the month of January and February of 2018. Demographic information such as gender, age, education profession and income of the respondent was considered. The demographic characteristics of the sample indicate that males and females were 56.2 and 43.8 per cent, respectively. The comprehensive demographic profile of respondents and results are reported in Table I.

For structural equation modelling, it is expected that the minimum sample must have at least five times as many observations as there are variables to be analysed, while a higher acceptable size would be a ten-to-one ratio (Hair et al., 2013). Based on the scale of items (Table AI), a sample size of 560 was deemed appropriate. Prior permission of the shopping mall managers was sought before conducting the survey. A systematic procedure based on the below mentioned criteria was followed for selection of the product category and identification of the cell phone as a product:
The category should have the possibility of being repurchased (Dwivedi et al., 2015).

A particular category should be affordable for the middle class of the society (i.e. the middle class must have a definition associated to it.). The idea was to ensure adequate market coverage of brands (Sahay and Sharma, 2010).

The selected product category should be relevant to both male and female consumers to negate the impact of gender as an independent variable (Moore and Wurster, 2007).

The cell phone as a product, met the three conditions of a possible repeat purchase. Product affordability and gender neutrality were prominent considerations in the final survey too. Additionally, the “cell phone” has been predominantly used in previous brand research as well (Martensen, 2007; Petruzzellis, 2010; Alamro and Rowley, 2011; Hamid, 2013).

### 3.3 The measurement scale

A discussion regarding each of the intrinsic variables that need to be considered with reference to the different dimensions has been already presented in the section titled ‘Literature review’. The present study chose to adopt measurement scales that took into account the multi-dimensionality of the brand equity, brand satisfaction and brand trust (Table AI). The questionnaire utilises brand equity measurements using a seven-point Likert scale proposed by Keller (2001; 2003; 2008). Brand satisfaction (Kuikka and Laukkanen, 2012) and Brand trust (Chaudhuri and Holbrook, 2001) were adopted as mediators from the original scale. The confirmatory factor analysis, reliability and validity analysis was done for the scale as the intent of this study was to analyse the existing and extended brand equity model.

In the confirmatory model testing, study achieved a fairly good model fit on indices. The correlation between all latent variables is at a moderate level, which suggests that latent variables are associated but, still fit the norms of discriminant validity (Brown, 2006). All loadings and correlations between latent variables were significant ($p < 0.05$). With the standard (Tabachnick and Fidell, 2007), all factor loadings were considered from “very

| Characteristic       | Description                              | N   | (%) |
|----------------------|------------------------------------------|-----|-----|
| Gender               | Male                                     | 315 | 56.2|
|                      | Female                                   | 245 | 43.8|
| Age Group            | Less than 20-30                           | 188 | 33.6|
|                      | 30–40                                     | 234 | 41.8|
|                      | Above 40                                  | 138 | 24.6|
| Education            | Below Graduation                          | 152 | 27.1|
|                      | Graduate                                  | 294 | 52.5|
|                      | Post-graduation and above                 | 114 | 20.4|
| Occupation           | Private Employee                          | 182 | 32.5|
|                      | Govt. Employee                            | 110 | 19.7|
|                      | Businessman                              | 64  | 11.4|
|                      | Student                                   | 115 | 20.5|
|                      | Other (Please specify)                    | 89  | 15.9|
| Income Class         | Less than 1 hundred thousand INR to 3     | 162 | 29.0|
|                      | hundred thousand INR                      |     |     |
|                      | 3 hundred thousand INR to 6 hundred       | 240 | 42.9|
|                      | thousand INR                             |     |     |
|                      | 6 hundred thousand INR to 10 hundred      | 96  | 17.1|
|                      | thousand INR                             |     |     |
|                      | More than 10 hundred thousand INR         | 62  | 11.0|

**Source:** Author’s own calculations

### Table I. Demographic profile of respondents
good” to “excellent.” Confirmatory factor model achieved a good model fit on indices such as $\chi^2 (N = 240) = 2184.255$, $DF = 805$, $p < 0.001$, GFI = 0.921, AGFI = 0.914, PGFI = 0.908, NFI = 0.906, RFI = 0.903, IFI = 0.938, TLI = 0.929, CFI = 0.938, RMSEA = 0.055. Considering Kline (2015) and Hair et al. (2013) recommendations for assessing acceptable model fit criteria; the confirmatory model is a good acceptable fit.

The composite reliability value exceeds 0.70 and the AVE is not less than 0.50 (Fornell and Larcker, 1981). Experts in the area (Kidader and Judd, 1986) of brand management have assessed the content validity of the measures, through examination. For convergent validation, study analysed Item-to-Total Correlations between the same construct and it exhibited high correlations (greater than 0.8) between the same construct items (Hair et al., 2013). Verified divergent validation through correlation between different construct items shows low correlation (less than 0.6) between different construct items (Bagozzi et al., 1991). Additionally, an exercise to map the efficacy of brand satisfaction and brand trust as the mediators between brand antecedents and outcomes was undertaken, while analysing the extended brand equity model. The data analysis was executed with the help of AMOS-22.

4. Results
To begin with, present study extracted the observed variables to measure eleven latent variables from past studies (Keller, 2001, 2002; Gordon Fullerton, 2005; Delgado-Ballester et al., 2003; Keller, 2016), also study tested the existing model of brand equity. The study further analysed the brand equity model with two new added variables, i.e. brand satisfaction and brand trust. Finally, present study conducted a series of path model analyses to test the mediating role of brand satisfaction and brand trust within the brand equity model. The analysis of the model, as seen in Figure 2, used the latent variables.

The Keller (2001) brand equity model, as represented in Figure 2 and SEM data analysis output in Table II elucidates that the paths considered by the researcher according to the theory of brand equity, are valid paths. The analysis revealed that only four paths out of twenty-seven paths of the brand equity model (BL-BL BA-BAT BP-BAT BF-BE) were not significant. However, these paths were found significant when considered with other associated latent variables.

In addition, Figure 2 and Table II illustrated the SEM model fit achieved $\chi^2 (N = 560) = 1572.455$, $DF = 497$, $p < 0.001$, GFI = 0.912, AGFI = 0.908, PGFI = 0.902, NFI = 913,
RFI = 911, IFI = 0.920, TLI = 0.910 CFI = 0.920, RMSEA = 0.062. The model fit indices are at or above the recommended 0.90, and the chi-square to degrees of freedom ratio is 3.1 (Byrne, 2010; Hair et al., 2013; Kline, 2015). This confirmed the acceptance of research assumption RA-1 (excluding the path BL ← BI; BAT ← BA; BAT ← BP; BE ← BF of RA1), which assumes that a brand equity antecedent has a positive effect on brand equity outcomes.

4.1 Mediating regression analysis

To ascertain the role of brand satisfaction and brand trust in brand equity, study tested the mediation model of brand equity. Table III and Figure 3 both depict the mediation model of brand equity with direct effect and found that the three paths (BF-BT, BS-BC, and BT-BE) showed an insignificant relationship between antecedents and outcomes when considered with forty-six paths of mediation brand equity model. The amount of variance in outcomes, explained by each antecedent of mediation brand equity model ranges from brand image 34 per cent to brand trust 87 per cent. The model fit indices proved the statistical fitness of the model as they achieved $\chi^2(N = 560) = 2369.634$, DF =

| SN | Path   | $\beta$-COS | S.E.  | C.R.  | $p$-value | Significant |
|----|--------|--------------|-------|-------|-----------|-------------|
| 1  | BP ← BA | 0.711        | 0.057 | 11.805 | ***       | Significant |
| 2  | BI ← BP | 0.584        | 0.079 | 9.927  | ***       | Significant |
| 3  | BJ ← BI | 0.843        | 0.058 | 12.763 | ***       | Significant |
| 4  | BF ← BJ | 0.825        | 0.064 | 13.909 | ***       | Significant |
| 5  | BL ← BA | 0.068        | 0.080 | 2.124  | 0.026*    | Not-Significant |
| 6  | BL ← BP | 0.124        | 0.100 | 2.730  | 0.044*    | Not-Significant |
| 7  | BL ← BI | -0.125       | 0.099 | -1.303 | 0.192     | Not-Significant |
| 8  | BL ← BF | 0.179        | 0.090 | 2.160  | 0.031*    | Not-Significant |
| 9  | BAT ← BI | 0.057       | 0.089 | 2.133  | 0.046*    | Not-Significant |
| 10 | BAT ← BA | -0.058      | 0.070 | -1.209 | 0.227     | Not-Significant |
| 11 | BAT ← BP | 0.001       | 0.087 | 0.019  | 0.985     | Not-Significant |
| 12 | BAT ← BF | 0.134       | 0.077 | 2.071  | 0.038*    | Not-Significant |
| 13 | BAT ← BJ | 0.328       | 0.143 | 2.977  | 0.003***  | Not-Significant |
| 14 | BAT ← BL | 0.441       | 0.056 | 8.658  | ***       | Not-Significant |
| 15 | BC ← BA | -0.113      | 0.078 | -2.334 | 0.020*    | Not-Significant |
| 16 | BC ← BP | -0.110      | 0.099 | -2.205 | 0.037*    | Not-Significant |
| 17 | BC ← BI | 0.659       | 0.116 | 7.224  | ***       | Significant |
| 18 | BC ← BF | 0.124       | 0.087 | 2.883  | 0.040*    | Not-Significant |
| 19 | BC ← BAT | -0.366      | 0.164 | -3.196 | 0.001***  | Not-Significant |
| 20 | BC ← BJ | 0.625       | 0.064 | 10.754 | ***       | Significant |
| 21 | BE ← BA | 0.026       | 0.066 | 2.545  | 0.041*    | Significant |
| 22 | BE ← BP | 0.050       | 0.081 | 2.893  | 0.027*    | Significant |
| 23 | BE ← BI | 0.474       | 0.109 | -4.726 | ***       | Significant |
| 24 | BE ← BF | -0.065      | 0.078 | -1.209 | 0.219     | Not-Significant |
| 25 | BE ← BJ | 0.763       | 0.138 | 6.809  | ***       | Significant |
| 26 | BE ← BC | 0.691       | 0.056 | 10.665 | ***       | Significant |

**Notes:** Method = Maximum Likelihood Estimates, ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, NS = Not significant ($p > 0.05$) Chi-square = 1572.455, Degrees of freedom = 497, Probability level = 0.000 List of abbreviations: BA - Brand Awareness; BP - Brand Performance; BI - Brand Image BJ - Brand Judgment; BF - Brand Feelings; BL - Brand Loyalty; BAT - Brand Attachment; BC - Brand Community; BE - Brand Engagement; BS - Brand Satisfaction; BT - Brand Trust

**Source:** Author’s own calculations

Table II. Existing model of Brand equity analysis
| SN | Path     | β-COS | S.E.  | C.R.  | p-value | Significant |
|----|----------|-------|-------|-------|---------|-------------|
| 1  | BP ← BA  | 0.711 | 0.057 | 11.812| 0.000***| Significant |
| 2  | BI ← BP  | 0.580 | 0.079 | 9.902 | 0.000***| Significant |
| 3  | BJ ← BI  | 0.834 | 0.068 | 12.689| 0.000***| Significant |
| 4  | BF ← BJ  | 0.823 | 0.065 | 13.829| 0.000***| Significant |
| 5  | BS ← BA  | 0.101 | 0.066 | 2.876 | 0.041*  | Significant |
| 6  | BS ← BP  | 0.534 | 0.091 | 7.530 | 0.000***| Significant |
| 7  | BS ← BI  | 0.475 | 0.092 | -4.925| 0.000***| Significant |
| 8  | BS ← BF  | 0.340 | 0.075 | 4.552 | 0.000***| Significant |
| 9  | BS ← BJ  | 0.468 | 0.133 | 3.808 | 0.000***| Significant |
| 10 | BT ← BA  | 0.089 | 0.052 | 1.965 | 0.049*  | Significant |
| 11 | BT ← BP  | 0.267 | 0.089 | -3.649| 0.000***| Significant |
| 12 | BT ← BI  | 0.134 | 0.080 | 2.493 | 0.036*  | Significant |
| 13 | BT ← BF  | 0.015 | 0.061 | -0.229| 0.819   | Not-Significant |
| 14 | BT ← BJ  | 0.269 | 0.113 | 2.427 | 0.015*  | Significant |
| 15 | BT ← BS  | 0.785 | 0.070 | 10.609| 0.000***| Significant |
| 16 | BL ← BA  | 0.022 | 0.079 | 2.371 | 0.041*  | Significant |
| 17 | BL ← BP  | 0.139 | 0.149 | 2.297 | 0.019*  | Significant |
| 18 | BL ← BI  | 0.150 | 0.115 | 2.342 | 0.018*  | Significant |
| 19 | BL ← BF  | 0.030 | 0.088 | 2.105 | 0.44*   | Significant |
| 20 | BL ← BJ  | 0.310 | 0.158 | 2.301 | 0.021*  | Significant |
| 21 | BL ← BS  | 0.514 | 0.178 | 3.143 | 0.002** | Significant |
| 22 | BL ← BT  | 0.037 | 0.176 | -0.198| 0.047*  | Significant |
| 23 | BAT ← BI  | 0.081 | 0.105 | 2.873 | 0.038*  | Significant |
| 24 | BAT ← BA  | -0.090| 0.071 | -1.85 | 0.063*  | Significant |
| 25 | BAT ← BP  | 0.012 | 0.134 | 1.992 | 0.048*  | Significant |
| 26 | BAT ← BI  | 0.100 | 0.079 | 2.522 | 0.028*  | Significant |
| 27 | BAT ← BF  | 0.194 | 0.149 | 2.693 | 0.040*  | Significant |
| 28 | BAT ← BS  | 0.127 | 0.165 | 2.127 | 0.035*  | Significant |
| 29 | BAT ← BT  | 0.321 | 0.158 | 3.260 | 0.009** | Significant |
| 30 | BAT ← BL  | 0.415 | 0.059 | 7.738 | 0.000***| Significant |
| 31 | BC ← BA  | -0.127| 0.082 | -2.515| 0.012*  | Significant |
| 32 | BC ← BP  | 0.040 | 0.153 | 2.105 | 0.041*  | Significant |
| 33 | BC ← BI  | 0.594 | 0.136 | 5.517 | 0.000***| Significant |
| 34 | BC ← BF  | 0.138 | 0.092 | 2.005 | 0.045*  | Significant |
| 35 | BC ← BJ  | 0.350 | 0.182 | -2.768| 0.006** | Significant |
| 36 | BC ← BS  | -0.153| 0.184 | -1.106| 0.269   | Not-Significant |
| 37 | BC ← BT  | 0.146 | 0.189 | 2.095 | 0.027*  | Significant |
| 38 | BC ← BAT  | 0.609 | 0.067 | 10.126| 0.000***| Significant |
| 39 | BE ← BA  | 0.031 | 0.071 | 2.017 | 0.038*  | Significant |
| 40 | BE ← BP  | 0.052 | 0.130 | 1.998 | 0.046*  | Significant |
| 41 | BE ← BI  | 0.341 | 0.128 | -2.890| 0.004** | Significant |
| 42 | BE ← BF  | 0.107 | 0.082 | 2.493 | 0.035*  | Significant |
| 43 | BE ← BJ  | 0.683 | 0.166 | 5.083 | 0.000***| Significant |
| 44 | BE ← BS  | 0.211 | 0.160 | 2.510 | 0.031*  | Significant |
| 45 | BE ← BT  | 0.135 | 0.168 | -0.973| 0.331   | Not-Significant |
| 46 | BE ← BC  | 0.683 | 0.057 | 10.284| 0.000***| Significant |

**Notes:** Method = Maximum Likelihood Estimates ***p < 0.001, **p < 0.01, *p < 0.05, NS = Not significant (p > 0.05) Chi-square = 2369.634 Degrees of freedom = 770 Probability level = 0.000; List of abbreviations: BA = Brand Awareness; BP = Brand Performance; BI = Brand Image; BJ = Brand Judgment; BF = Brand Feelings; BL = Brand Loyalty; BAT = Brand Attachment; BC = Brand Community; BE = Brand Engagement; BS = Brand Satisfaction; BT = Brand Trust

**Source:** Author’s own calculations
The model fit indices are at or above the recommended 0.90, and the chi-square to degrees of freedom ratio is 3 (Byrne, 2010; Hair et al., 2013; Kline, 2015). All values of paths are significant at 95 per cent of confidence level, which leads to the acceptance of research assumptions RA-2 and RA-3. The existing brand equity model explains more than 50 per cent of variance of outcome variables. The mediating brand equity model is statistically a good fit as compared to the existing model as each antecedent of the model except, brand image explains more than 60 per cent of variance of the outcome variables.

Table IV shows the mediation path analysis of brand trust and satisfaction. Mediating hypothesis asserts that brand satisfaction and brand trust mediate the relationship between brand equity outcomes and brand equity antecedents. Analysis of the SEM model shows that the model provides a fit with the data but does not directly prove the hypothesis. A series of hierarchical regression was conducted to test the mediating role of brand satisfaction and brand trust in the brand equity model. To analyse the indirect effect, present study performed a bootstrap with 500 bootstrap samples at 95 per cent of bias-corrected confidence interval. The β-coefficient and p-values proved that brand satisfaction and brand trust play the role of mediating variables in the brand equity model. As a result of the existing and mediating SEM – path model analysis output, it has been confirmed that all the three research assumptions are duly supported.

RA1. A brand equity antecedent has a positive effect on brand equity outcomes.

RA2. Brand satisfaction mediates the relationship between brand equity antecedents and brand equity outcomes.

RA3. Brand trust mediates the relationship between brand equity antecedents and brand equity outcomes.

The results illustrated in Table IV of the structural equation modelling confer that the present study model fits statistically with our data. Having achieved all acceptable fit values, the study accept the model of brand equity for the cell phone product category, which considers brand satisfaction and brand trust as mediating variables.
5. Conclusions and implications

Most of the previous studies have neglected the mediating effects of brand trust and brand satisfaction on the relationship between brand equity antecedents and brand equity outcomes (Delgado-Ballester and Munuera-Aleman, 2005; Pappu and Quester, 2006;
Kumar et al., 2013). This study aimed to examine the mediating role of brand trust and brand satisfaction in the relationship between brand equity antecedents and brand equity outcomes in the context of consumer durables in India. This study also intended to provide an extended version of Keller’s (2001) brand equity model to foster future research and application within highly competitive markets. With the help of structural equation modelling, the present study tested the existing brand equity and mediating brand equity model. The present study proves the efficacy of brand trust (Morgan and Hunt, 1994; Delgado-Ballester and Munuera-Aleman, 2005; Huang, 2017) and brand satisfaction (Chaudhuri and Holbrook, 2001; Szymanski and Henard, 2001; Pappu and Quester, 2006; Moisescu and Allen, 2010) as mediators in the conceptual mediating brand equity model. Consistent with previous studies, the findings of the two structural models confirm that brand trust significantly influences brand equity (Mishra et al., 2014; Veloutsou, 2015) and that brand satisfaction too influences brand equity (Çifci et al., 2016; Fatma et al., 2016; Elsaßer and Wirtz, 2017; Popp and Woratschek, 2017).

The results of this study show that the existing (Keller, 2001), as well as the mediating model of brand equity (Keller, 2001, 2002; 2008; Kumar et al., 2013), represents a good fit for the data. The outputs of existing brand equity model confirm the low effects of brand image on brand loyalty are similar to the findings of Stocchi et al. (2015). Findings of existing brand equity model analysis reveal the positive relationship between brand image and brand judgment (Abosag and Farah, 2014), brand awareness and brand performance (Huang and Sarigöllü, 2012), brand image and brand community (Gensler et al., 2015), brand performance and brand image (De Vries and Carlson, 2014), and brand judgment and brand loyalty (Abosag and Farah, 2014).

Incorporating brand satisfaction (Çifci et al., 2016) and brand trust (Mishra et al., 2014) into the model emphasise the higher variability of brand equity when compared to the existing model (Keller, 2001). These noteworthy findings further illustrate the importance of brand satisfaction and brand trust from the standpoint of marketing (Lee et al., 2015). When two new variables were added to the brand equity model namely brand satisfaction and brand trust, it was noted that only three paths showed an insignificant relationship between antecedents and outcomes, when compared with 46 paths of the new brand equity model. The results indicated that the antecedents of brand equity such as brand awareness, brand performance, brand image, brand judgment and brand feelings, significantly affect the brand equity outcomes (Keller, 1993, 2001; 2002, 2008; Kumar et al., 2013). In this case, there are indications that the mediation is complete. The mediating role of brand trust and brand satisfaction proposed from the findings is consistent with the findings of research suggesting that the brand trust (Morgan, and Hunt, 1994; Delgado-Ballester and Munuera-Aleman, 2005) and brand satisfaction (Chaudhuri and Holbrook, 2001; Pappu and Quester, 2006; Moisescu and Allen, 2010) acts as a mediator in the formation of brand equity (Kumar et al., 2013).

Previous research has been unable to inter-relate brand satisfaction, brand trust, and brand equity in this manner. In the present study, it was found that brand satisfaction (Moisescu and Allen, 2010; Kuikka and Laukkanen, 2012) and brand trust (Sheth and Parvatiyar, 1995; Chaudhuri and Holbrook, 2001; Delgado-Ballester and Munuera-Aleman, 2005) play the role of mediating variables that arbitrate the relationship between brand equity antecedents and brand equity outcomes (Kumar et al., 2013). As for the indirect effect, among the nineteen highlighted relations, the new variable, brand trust, is involved in eight of the indirect relations, while the new variable brand satisfaction is involved in eleven of the nineteen highlighted relations. Brand trust has a higher direct and mediation effect within the revised model, while brand satisfaction has a larger indirect effect (Caceres and
Paparoidamis, 2007). The indirect interaction between brand equity antecedents and brand equity outcomes with the help of brand satisfaction and brand trust is more effective than the direct interaction of brand equity antecedents and brand equity outcomes. Finally, the relationship between the two impacting variables, i.e. brand satisfaction and brand trust implies that efforts to foster any one will have a direct positive impact on the other and on the effort of brand equity development, as a whole.

The present study could be of immense help to marketers and brand strategists, who could contemplate and consider the influence of brand satisfaction (Raut and Brito, 2014; Fatma et al., 2016; Fuentes-Blasco et al., 2017) and brand trust (Mishra et al., 2014; Delgado-Ballester and Munuera-Aleman, 2005) on the brand equity construct. The present research also shows that the brand equity model works in a manner befitting its theoretical description. By testing the existing and the enhanced mediation brand equity model in the present study, it was found that brand equity is built in a gradual step-by-step manner and every antecedent indirectly (mediation) and directly affects the outcomes of brand equity (Keller, 2001, 2002; 2008; Kumar et al., 2013).

All parameters of model fit also support the high predictability of the new brand equity model as compared to the existing one. It is indeed a challenge for a brand manager to develop and maintain brand equity. The managerial perspective of the present study seeks to provide a guideline to the manager/s while trying to understand the significance of each element of brand equity. The brand equity mediation model will enable a brand manager to conclusively identify the role of brand satisfaction (Pappu and Quester, 2006) and brand trust (Delgado-Ballester and Munuera-Aleman, 2005) in the overall development of brand equity. The currently propositioned mediating model of brand equity is likely to prove beneficial for the purpose of brand tracking as well (Keller, 2016).

This study proposes a new model for consideration in the domain of marketing for both, brand managers and research scholars potentially enabling them to analyse the level of brand equity among their consumers and respondents. With this extended brand equity model, managers can effectively anticipate the impact of different antecedents and mediators of brand equity on the outcome of brand equity vis-à-vis their brand. The findings of this study reinforce the assertion that brand satisfaction and brand trust need to be proactively considered for their ability to influence brand equity (Delgado-Ballester and Munuera-Aleman, 2005; Pappu and Quester, 2006; Moisescu and Allen, 2010; Li et al., 2015). The extended brand equity model also provides marketers with two additional tangible goals to achieve with regards to their brand-building activities i.e. brand satisfaction and brand trust. Brand managers can use this extended model to analyse the level of attachment of a consumer with a brand. The findings of this study, particularly the significance of brand satisfaction and brand trust in building brand equity may be leveraged by brand managers to further enhance consumers’ attachment with their brands and brand equity outcomes as a whole. The present research will also prove to be a significant contribution to branding theory and practice on account of its empirical investigation and in-depth analysis leading to a comprehensive and actionable brand equity model that moves away from the inference that the brand equity model is latent and unified (Keller, 2001, 2002; 2008).

5.1 Limitations and scope for future research
Present study acknowledges a few limitations of our research that may elicit potential avenues for future research. The decision to force consumers to focus on a specific brand in the study represents an inherent limitation as regards the cell phone brands chosen in the product category. Hypothetically, some respondents may not be familiar with either brand. Researchers can replicate the study in other contexts, like, focussing on the brand that was
last purchased by the respondent. With reference to the methodological choices, data was collected for only one product i.e. cell phone, rather than a broad range of products. Therefore, it would be useful to replicate the study with different product brands as well, to establish generalizability of the present study.

One of the potential limitations of this research relates to the representativeness of the sample and the influence of demographic differences in the results of the study. As data for the present study were collected from only two prominent cities of India, surveying a larger, more diverse pool of respondents would allow further generalisation of the findings. In this study, the respondents chose their preferred brand of product, which indicates a strong relationship between respondents and the selected brands. Hence, the results may not be accurate for circumstances where weaker relationships with the brands are evident, or for brands that the user may not wish to introduce in their consideration sets. In future research, the prospective researchers might want to replicate this study in other cultural settings, as inter-cultural differences may lead to different brand equity context.

Our analysis is based on the brand equity paradigm, its dimensions and the mediating role of brand satisfaction and brand trust. Hence the researcher might test the mediating role of brand satisfaction and brand trust in the formation of “brand value”. Future research may test the new model of brand equity in different geographic, demographic and psychographic contexts. The researcher can test a similar mediation model with control effect of consumer demographics. Further study could examine other factors that could be antecedents and outcomes of brand equity such as brand reliability, brand experience, perceived quality, brand credibility or other dimensions of brand equity.

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## Appendix

| Construct and measurement | Measurement items |
|---------------------------|------------------|
| **item source** | **Construct and measurement** |
| Brand Awareness Keller (2001; 2002; 2008) | This brand is very easy to recognise  
This brand is popular  
I know where I can buy this brand |
| Brand Performance Keller (2001; 2002; 2008) | Compared with other brands in the product category, this brand satisfies  
my basic needs  
This brand is reliable for me  
I like the look, feel and other design aspects of this brand |
| Brand Image Keller (2001; 2002; 2008) | I give respect to the people who use this brand  
I like the people who use this brand  
I feel that I grew up with this brand |
| Brand Judgment Keller (2001; 2002; 2008) | This is the good value brand  
This is very innovative brand  
Personally this brand is relevant for me  
This is unique brand  
This is superior brand as compared to other brands in the product category |
| Brand Feelings Keller (2001; 2002; 2008) | This brand gives me a feeling of fun  
This brand gives me a feeling of security  
This brand gives me a feeling of social approval  
This brand gives me a feeling of self respect |
| Brand Loyalty Keller (2001; 2002; 2008) | I consider myself loyal to this brand  
I buy this brand whenever I can  
This is the one brand I would prefer to buy |
| Brand Attachment Keller (2001; 2002; 2008) | I really love this brand  
I would really miss this brand if it went away  
This brand is special to me  
This brand is more than a product to me |
| Brand Community Keller (2001; 2002; 2008) | I really identify with people who use this brand  
I feel as if I almost belong to a club with other users of this brand  
This is a brand used by people like me  
I feel a deep connection with others who use this brand |
| Brand Engagement Keller (2001; 2002; 2008) | I really like to talk about this brand to others  
I am always interested in learning more about this brand  
I am proud to have others know I use this brand  
I like to visit the Web site for this brand  
Compared with other people, I follow news about this brand closely |
| Brand Satisfaction Kuikka and Laukkanen (2012) | I am pleased with this brand  
I am happy with this brand  
I am contented with this brand  
Overall, I am satisfied with this brand |
| Brand Trust Chaudhuri and Holbrook (2001) | I trust this brand  
I rely on this brand  
This is an honest brand  
This brand is safe |