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Linking user experience and consumer-based brand equity: the moderating role of consumer expertise and lifestyle

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Abstract

Purpose – The study aims to explore the buildup of consumer-based brand equity (CBBE) from positive derived experiences. Rewarding experiences with products make a user feel good about their decision to buy and use them. Those feelings get accrued as strong consumer–brand relationship, measured comprehensively by CBBE in marketing literature.

Design/methodology/approach – The study is conducted in two phases – exploratory and validation. The exploratory phase involved conceiving a theoretical framework from in-depth literature review. The framework is then validated through a survey-based empirical phase. Smartphones form the context of the work.

Findings – The three consumption values used in the study are usability, social value and pleasure in use. Brand equity has been conceptualized and measured as brand association, perceived value, brand trust and brand loyalty. The moderating role of user expertise, as well as lifestyle, was also tested on pleasure derived. Most of the hypothesized relationships between different constructs of experience and brand equity were found significant. Significant evidence for hierarchical formation of brand equity was also established.

Research limitations/implications – Lack of evidence of moderation of lifestyle may be ascribed to the validity of the scale used to measure it in the current context and needs to be updated. The study contributes by conceiving experience as a multidimensional framework based on Holbrook's typology, besides validating its relationship to CBBE. Hierarchical formation of brand equity is also a novel contribution.

Practical implications – This study provides an indicative guide to marketers with design cues that can provide relevant consumption values in the quest for a positive brand impression. It also provides directions for segmenting the smartphone market based on user expertise for better branding.

Originality/value – The study is innovative by relating experience, conceptualized with Holbrook's framework and CBBE – something yet to be seen in the literature.

Keywords Social value, Brand trust, Usability, Brand awareness, Brand loyalty, Social status, Consumer-based brand equity, Experiential branding, Hedonic and utilitarian consumption, Perceived quality

Paper type Research paper

An executive summary for managers and executive readers can be found at the end of this issue.

1. Introduction

Advent and evolution of interactive digital devices, like smartphones, in consumer's lives translates into variety of day to day experiences, be it information transfusion, communication or even lifestyle portrayal. As a gateway, allowing the user to flux between the real and virtual worlds seamlessly with more control and power, such devices score high on engagement levels (Kim *et al.*, 2013), yet few

studies (Chapman *et al.*, 1999; O'Brien and Toms, 2008) focus on consumers' source of engagement and experiences for this category. Recent work on user's engagement with technology products, proposes motivation, in form of utilitarian, social and hedonic motives, as a conduit for prolonged usage (Kim *et al.*, 2013, 2007). Although these studies provide strong guidelines for measuring consumption experience and its importance to long-term usage, the effect of such positive experiences with the product, on the brand and its relation with the consumer, remains conspicuously unattended.

Extant literature suggests that products, tangible or intangible, are rich sources to vivid experiences (Holbrook and Hirschman, 1982), causing long-term association with products belonging to the contextual brand (Cyr *et al.*, 2006). Such rich and productive experiences convert to favorable brand dispositions, measured most effectively by consumer-based brand equity (CBBE) (Kumar *et al.*, 2013; Biedenbach and Marell, 2010; Ferguson *et al.*, 2010). As a novel attempt, the current study aims to use the experiential value framework as a measure for meaningful consumer

experiences and explores its effect on CBBE operationalized as a multi-dimensional framework.

2. Research objectives

Extant research suggests there are two distinct ways experiences can shape consumer's brand impressions. First, it is quite possible that brand imageries are imprinted in human memory as elements of conceptual nodes (McClelland, 2000). Undergoing specific experiences with a product may activate the brand element associated with this node. Alternatively, brand associations, themselves, may be engraved in human mind as a variety of other related associations, one of them being a specific product category (Sen, 1999). Irrespective of the mechanism, it seems evident that direct product consumption experiences will influence brand association as well as the consumer–brand relationship (Warlop *et al.*, 2005), something this study explores. The prominent building blocks of the overall model are highlighted next along with the associated research objectives.

2.1 Consumption value and CBBE

The exploration of the consumption experience builds a path into the concept of consumption value (Holbrook, 1999). Holbrook defined consumption value as an interactive relativistic preference experience composed of three critical values – utilitarian, social and hedonic. While utilitarian value constitutes a mix of perceived usefulness (effectiveness) and perceived ease of use (efficiency) of a device, as theorized by Holbrook (1999), social value points to the experiential component that enhances the consumer's social status and self-esteem (Vigneron and Johnson, 1999). Finally, hedonic value refers to the multitude of emotions and affect experienced by consumers in the form of fun, playfulness and enjoyment (Cyr *et al.*, 2006). These three values are parallel to the three motives for user–smartphone engagement as undertaken by Kim *et al.* (2013).

The concept of CBBE, as a measure of consumer – brand relationship, has been operationalized as a multi-dimensional construct primarily made up of brand association, perceived value, brand trust and brand loyalty in most discussions (Aaker, 1996; Yoo and Donthu, 2001; Netemeyer *et al.*, 2004; Delgado-Ballester and Munuera-Aleman, 2001). Specifically from a product context, these dimensions are critical and have been adopted for a richer and comprehensive understanding of the CBBE formation process for this work. With extant literature pointing toward a strong relation between product consumption experience and consumer – brand association, the first research objective of the study is to explore the relationship between different constructs of experiential value and those of CBBE.

2.2 Individual characteristics

Individual differences play a critical role in affecting the process of consummation pleasurable experiences (Gard *et al.*, 2007; Meehl, 1975). More recently, in the context of digital devices, user expertise and usage lifestyle have been theorized as factors modulating emotions derived from product experiences (Mitchell and Dacin, 1996; Wilska, 2003; Langner and Krengel, 2011). Based on this discussion, the second research objective of the study is to explore the

moderating effect of consumer expertise and lifestyle on consumption value development process.

3. Literature review and hypotheses

3.1 User experience

Current literature points at two paradigms exploring user experience – consumption experience and brand experience. In their recent effort, Brakus *et al.* (2009) conceptualize brand experience as one related to brand-related components like brand design, identity, packaging, communications or environment. The critical point of difference between brand experience and consumption experience lies in the multitude of outcomes in experiential context. Brand experience relates to consumer inference about the quality of brand-related stimuli in the product and resulting emotions and feelings, leading to liking of the experience. On the other hand, consumption experience theory takes a more holistic consumer perception-based facets and utilities arising out of product use, without accounting for brand judgments. More so, the consumption value approach (Holbrook, 1996; Mathwick *et al.*, 2001) undertakes perceived experiential value as the central point of consumer's perceived experience. Besides Holbrook's axiology, the value framework has seen two more associated treatments in literature – consumer's functional, symbolic and experiential needs (Park *et al.*, 1986) and consumer values of functional, social, emotional, epistemic and conditional needs (Sheth *et al.*, 1991a, 1991b). Functional, hedonic and social values form the three common denominators in form of consumption values, derived from these three leading frameworks. Owing to the richness and relevance of Holbrook's framework, it has been adopted as the guideline to measure consumption experience in this study.

3.2 Dimensions of user experience

With hardly any research on consumption experience in the smartphone context (Sheng and Teo, 2012), the three experiential values needed transformation suitable to the specific category. Literature outside the marketing domain was analyzed for suitable measures of experiential values, leading us to propose the following three components of consumption experience.

3.2.1 Usability (functional value)

As an integration of certain qualities inherent in a usable device like efficiency, learnability, memorability, error-reduction and satisfaction (Nielsen, 1993), usability aggregates functional value (Holbrook, 1999), perceived ease of use and usefulness in technology adoption model (TAM) (Davis, 1989; Venkatesh and Brown, 2001) and the utilitarian motive of engaging with smartphones (Kim *et al.*, 2013) into one broad construct. Usability of a device can range from ease of use and assimilation of the device in day-to-day life to facilitating interactions with others, as well as convenience of usage (Hallnäs and Redström, 2002; Church and Oliver, 2011). With utilitarian value well established as an antecedent to continued usage of technology products (Kim and Han, 2011), the importance of usability in determining overall experience and its aftereffects on a brand needs to be investigated.

3.2.2 Social value

Holbrook (1999) defines social value as one that occurs when one's own consumption behavior serves as a means to shaping

the responses of others. Products are an established pedestal and source of social interpretation and impressions (McDonagh *et al.*, 2002). In the social – cognitive view, interactions with environment have a direct bearing on expectations about the likely outcomes of future consumption behavior (Bandura, 1986). It represents the same process that describes the relationship among benefits sought, usage behavior and benefits obtained (Palmgreen *et al.*, 1985). Thus, apart from their functional character and diverse design configurations of their elements, smartphones are instrumental in portraying peoples' values and personality and help showcase social status (Seva and Helander, 2009). Social value has been placed prominently across all consumption value theories conceived today, more prominently Holbrook (1999) and Sheth *et al.* (1991a, 1991b).

3.2.3 Pleasure in use (hedonic value)
Jordan (1998) posited that a product not only needs to be usable but also pleasurable. A product, through its semantic expression, creates an association with the user and leads to emotional value (Crilly *et al.*, 2004). The concept is close to consummatory experience of pleasurable stimuli (Gard *et al.*, 2007) – emotions expressed when people get what they want. However, the concept of emotion as a part of pleasure is still under scrutiny. While, on one hand, pleasure in use is just considered in the narrow confines of enjoyment (Cyr *et al.*, 2006), others consider pleasure as one of the many taxonomies of emotions and hence, used interchangeably (Russell and Lanius, 1984). We define pleasure in use as an end state of experience where elicitations of positive feelings due to device usage cause the user to feel pleasure and a state of flow (Jordan, 1998, Carù and Cova, 2003).

3.3 Consumer-based brand equity
Richer than any other measure for a consumer's brand impression and adoption, CBBE is considered imperative in developing sustainable competitive advantage for the firm and is important in creating a point of differentiation to achieve competitive advantages (Yoo *et al.*, 2000). CBBE has been proposed to be a multi-dimensional construct subsuming all the major measures of different levels of brand performance constituting a significant component of the study model (Aaker, 1996). Four dimensions of CBBE have been found to be most elaborated in literature (as highlighted in Table I) and, consequently, have been taken forward for the current study.

3.4 Hypotheses development
To better understand the relation between consumption experience and CBBE as an outcome of our focused literature review, leading to elaboration of the various research variables in the context of the present study, we propose a theoretical framework. Twenty research hypotheses depicting the relationships among the nine research variables have been highlighted in Figure 1.

3.4.1 Usability and CBBE
Usability of a product enables the user to consume it in the most suitable way and creates an association with the brand of the product (Kuhn *et al.*, 2008). While interacting with the product, the consumer undergoes problem-solving experiences and, contingent on a positive outcome of the situation, may endear the product to the user (Schmitt, 1999). A fruitful interaction with such a complex, yet facilitative, product makes it extremely usable for the user. In turn, the associate brand gets to be perceived as one making innovative products, seconding as life companions. As a consequence, one of the outcomes of such thought-provoking usable experiences is a positive imagery of the brand (Chang and Chieng, 2006), leading us to propose:

H1. A higher consumer perception of usability strengthens brand association.

The direct relation of usability and perceived value is confusing at best in literature. While Park *et al.* (2006)

Table I Dimensions of brand equity in the literature

	Dimensions				
Context	Brand association	Perceived value	Brand trust	Brand loyalty	Author(s)
General	▓			▓	Aaker (1991)
General	▓				Keller (1993)
Television		▓	▓		Lassar *et al.* (1995)
General	▓	▓			Aaker (1996)
Camera, TV	▓			▓	Yoo *et al.* (2000)
Sweaters	▓				Faircloth *et al.* (2001)
Paste, Jeans		▓			Netemeyer *et al.* (2004)
Mobile				▓	Srinivasan and Moorman (2005)
Cars, TV	▓			▓	Pappu and Quester (2008)
TV, AC	▓			▓	Yasin *et al.* (2007)
Electronics	▓			▓	Chen (2007)
Shampoo			▓		Delgado and Munuera (2005)
Computers	▓			▓	Wang *et al.* (2008)
Car		▓			Tolba and Hassan (2009)
B2B			▓		Rauyruen *et al.* (2009)

Note: Shaded area suggests the presence of elements of Brand Equity in a study

Figure 1 Overall model
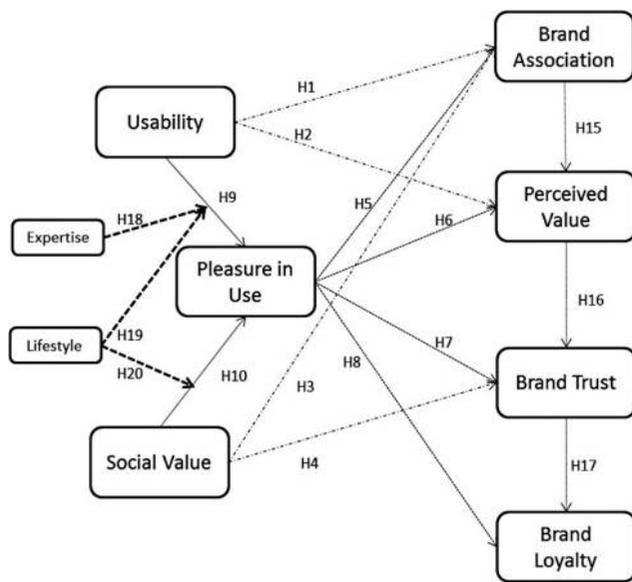
proposed brand perception to have an effect on the perceived usability, Bolchini et al. (2009) and Ben-Bassat et al. (2006) validated that usability has a positive effect on perceived value. Hassenzahl (2004) postulates that products, as a means to an end, make us interpret them as more usable if they help us achieve our goals. The sense of goal achievement, in turn, increases its perceived economic value. With this logic, we adopt the causality to flow from product to the brand and propose:

H2. A higher consumer perception of usability enhances the perceived value of the brand.

3.4.2 Social value and CBBE
Keller and Lehmann (2003) opine that social approval is also an important driver of building brand equity, by generating brand meaning for the consumer and thus, a positive brand association. If a smartphone design enhances the owner's social status, the respect gained on the basis of brand ownership in a referent community positively affects the user brand association (Muniz and O'Guinn, 2000). Status goods, like certain smartphones, are prestige brands in highly visible categories which allows the product to overtly signal the owner's socio-economic status (Charles et al., 2007). Luxury brands are, hence, highly desirable by people, as they have an association matching that description. Hence we propose:

H3. Higher accrued social value has a positive effect on consumer's brand association.

Brands act as signals of unobservable product quality, and brand trust is one of the key determinants for this signal to convey the intended information (Rao and Ruekert, 1994). The embedded symbolic meaning can lead to brands being positioned globally with a premium value (Steenkamp et al., 2003). Prestige of the brand ultimately serves as a signal of symbolism, attracting consumers who wish to enhance their social status (Baek et al., 2010). Such global brands are quite likely to be perceived as trustworthy (Kapferer, 1992). Even from the brand trust theory perspective, perception that a

product is acceptable in society, giving it a certain social acceptance, increases brand trust in the eyes of the consumer. Hence we propose:

H4. Higher accrued social value has a positive effect on consumer's brand trust.

3.4.3 Pleasure in use and CBBE
Emotional attachment, as an output of positive experiences, is the foundation stone of strong CBBE (Lassar et al., 1995). Experiences are sensations, feelings, cognitions and behavioral responses evoked by brand-related stimuli. Over time, brand experiences may result in emotional bonds. These emotional connections, then, become the catalyst of consumer relationship with the brand (Babin et al., 1994; Mano and Oliver, 1993; Muniz and O'Guinn, 2000). Brand associations are stored in human memory as sensory impressions like cognitive blueprints of physiological experiences of touch, sound, taste, etc. (Marks, 1996). Brand emotions are non-verbal appraisals of brand-related experiences causing brand associations to be stored in memory as emotional impressions. Emotional experiences facilitate the creation and reinforcement of consumer associations with a brand, enhancing its imagery (Chang and Chieng, 2006). We, thus propose:

H5. Higher pleasure in use enhances the consumer's brand association.

Strong feelings result from contact and interaction, and they develop over time, leading to perceived superiority or inferiority of a product/service (Schmitt, 1999). In extant literature, consumer's emotional experience has been found to affect perceived value (Helkkula and Kelleher, 2010). This is because a great experiential value in form of usability and social value makes the product usage pleasurable, justifying the economic sense of buying and using the product/service (Duman and Mattila, 2005). In a separate treatment, Sweeney and Soutar (2001) conceptualize economic value as a sub-dimension of overall perceived value, which also includes usage pleasure. Either way, the two concepts are expected to be strongly linked and we, thus, propose:

H6. Higher pleasure in use enhances the consumer's perceived value of the brand.

A pleasurable experience of a user has a profound effect on not only brand association and perceived value but also trust and loyalty. Chaudhari and Holbrook (2001) found that affect generated, while using a brand, has strong consequences on brand trust and loyalty, later concurred by Brakus et al. (2009). While Garrett (2003) posited that product design creates emotional bonds with consumers leading to loyalty, Noble and Kumar (2008) modeled emotional value to be a primary determinant of brand trust and loyalty. Similarly, Petruzzellis (2008) reported that emotional ties with a product reinforces both trust and loyalty of the contextual brand. We, thus, postulate:

H7. Higher pleasure in use enhances the consumer's brand trust.

H8. Higher pleasure in use enhances the consumer's brand loyalty.

3.4.4 Hierarchical creation of user experience

There is an interesting debate in literature about the relationship among the values in Holbrook's framework, whether they are co-present or have a sequential relationship (Sánchez-Fernández and Iniesta-Bonillo, 2007). While Holbrook conceived consumption values to be co-present, the customer-value hierarchy, proposed by Woodruff and Gardial (1996), relates the use situation (personal or social) to achievement of user goals, leading to positive or negative emotions. Young and Barbara (1975) proposed the means-end chain of Product Benefit → Functional Benefit → Practical Benefit → Emotions, supporting the conjecture that a highly functional product is capable of generating certain emotions in users. Similarly, the concept of emotional usability, proposed by Kim and Moon (1998), supports the premise that usability does lead to enjoyment and fun, making us postulate:

H9. Higher consumer's perception of usability increases the pleasure in use.

The affect theory of social exchange clearly indicates how possessions modulate social interactions leading to emotions for the owner (Lawler, 2001). Those emotions may be positive or negative, depending on the quantum and direction of the social response to the product. In the context of prestige products like smartphones, emotional value has been recognized as an important outcome of the perceived social value (Dubois and Laurent, 1994). Extant literature has constantly identified emotional responses, like sensory pleasure or excitement, associated with social consumption of such products (Roux and Floch, 1996). We, thus, hypothesize:

H10. Higher accrued social value leads to an increase in the pleasure in use.

3.4.5 Mediating role of pleasure

Emotional value, as measured by pleasure, is a clear aftermath of both utilitarian and social consumption of products by users, as hypothesized above. From a brand perspective, Chitturi *et al.* (2008) have shown that post-consumption emotions are a mediating link between utilitarian benefits and behavioral brand loyalty. Similarly, Chaudhari and Holbrook (2001) established brand affect as a mediator between consumption values and brand trust and loyalty. Additionally, our hypotheses clearly point out that pleasure in use acts as the bedrock for formation of CBBE, being related to all four dimensions of brand equity, as well as usability and social value. With the available literature pointing to the possible mediating role of pleasure between experiential values and higher brand equity dimensions (trust and loyalty), we suggest the following additional hypotheses:

H11. Pleasure in use mediates the relationship between perceived usability and brand trust.

H12. Pleasure in use mediates the relationship between perceived usability and brand loyalty.

H13. Pleasure in use mediates the relation between social value and brand trust.

H14. Pleasure in use mediates the relation between social value and brand loyalty.

3.4.6 Hierarchical CBBE formation

There is a stream of recent literature that considers brand equity as a sequence of components developed from a lower level of brand awareness to a higher level of brand loyalty (Biedenbach and Marell, 2010; Kumar *et al.*, 2013). For example, Chaudhari and Holbrook (2001) found that brand trust affects brand loyalty. Similarly, Pappu and Quester (2008) have empirically established the causal link among brand awareness, association, perceived value and brand loyalty. Further, Yoo *et al.* (2000) also suggest a possible causal link between different dimensions of CBBE. Extant brand equity literature clearly embosses brand association and perceived value as attitudinal components of brand equity with trust and loyalty as behavioral components, with the two being linked in a causal relation. Adopting this modern paradigm of sequential brand equity formation process, we propose the following hypotheses:

H15. Stronger consumer brand association enhances the perceived brand value.

H16. Higher perceived brand value reinforces the consumer's trust in the brand.

H17. Higher consumer brand trust leads to a stronger brand loyalty.

3.4.7 Moderating role of expertise

Expertise is defined as the capability of doing specific tasks efficiently and effectively (Alba and Hutchinson, 1987). Different consumers have different cognitive faculties, and thus, have to exert differential mental efforts while using complex products (Einhorn and Hogarth, 1981; Hoyer, 1984; Payne, 1976; Russo and Dosher, 1983). Experts have, generally, a better developed conceptual understanding and are better equipped to understand product information and, thus, prefer more functional elements compared to novices (Johnson and Kieras, 1983; Kekre *et al.*, 1995). Because affect is a concomitant outcome of achieving usability, it is expected that a user's expertise will have a moderating role of affect generation based on perceived usability during product consumption. We, therefore, propose:

H18. Experts derive more pleasure in use from usability compared to novices.

3.4.8 Moderating role of lifestyle

Consumption today is not just buying a product but has become more as a means of self-expression and individual identity creation (Gabriel and Lang, 2008). Post-modern consumption styles have tilted toward more youthful experiences, especially with technology products, involving people in more of fun and play experiences (Langman, 1992). Smartphones have become an important ingredient in the lifestyle of users as people look for congruence between the symbolic meaning of the product and their own ways of looking at life in general. Lifestyle of users defines the roles users play at different point of time and thus affects adoption and usage (Blinkoff, 2001). Modern consumption today has become more aestheticized with more emphasis on sensory

aspects of the products for user experiences like social image and usage pleasure derived from it. We thus expect lifestyle, more precisely in terms of usage of smartphones, to be a moderator in the buildup to user experience and propose:

H19. Consumer lifestyle moderates the relation between usability and pleasure in use.

H20. Consumer lifestyle moderates the relation between social value and pleasure in use.

4. Research methodology

4.1 Measurement of constructs
The measurement of all the constructs in the study was done using empirically well-established scales. The items of the scales were suitably modified to fit the context. Appendix highlights the items used in the scale as well as their source. All the items were anchored on a five-point "agree−disagree" Likert scale. Higher granularity of seven or nine anchors was avoided to reduce the overall response time of the questionnaire, without having to compromise on the overall data characteristics (Dawes, 2008). Expertise was measured by four separate scales adopted from four different sources, as none of them individually measure self-reported expertise effectively (Mitchell and Dacin, 1996). Consequently, expertise was treated as a formative measure with an average score of the four scales taken to measure it. The treatment of lifestyle variable, measured by a 17-item scale to capture mobile usage, for moderation test is elaborated later.

4.2 Sample and data collection
We used an online survey method using Facebook Advertisement. With > 90 per cent of smartphone owners in India active on Facebook, as claimed by the site, it represents a suitable repository of respondents to be targeted randomly using the site's ad-impression algorithm. We planted an advertisement, with a link to our online questionnaire, which ran for four months (July-October 2013) targeting owners of smartphones on the site. At the end of the campaign, 22,376 people clicked on the advertisement and reached the questionnaire. Out of those, 802 people filled the questionnaire, 68 of which were incomplete and rejected. Finally, we ended up with a total of 744 completed questionnaires and a cumulative response rate of 3.3 per cent which is acceptable in an online data collection process (Dillman, 2000).

4.3 Validation of measures
Because all the measures in the main model (excluding the moderators) used standard scales, without any new items added to them, no pretesting was required. Before examining the structural relationships, the measurement model was tested for the reliability and validity of items and constructs. This process is in accordance with Anderson and Gerbing (1988) recommended two-step approach. The results of the confirmatory factor analysis (CFA) have been presented in Table II. The fit indices obtained from the CFA represented a reasonable fit with normed fit index (NFI), incremental fit index (IFI) and comparative fit index (CFI) values of 0.85, 0.86 and 0.86, respectively. The root mean square error of

approximation (RMSEA) and root mean square residual (RMR) presented a good measurement model picture with values of 0.08 and 0.07, respectively.

To test the internal consistency of the items used to measure each construct, composite reliability (CR) and alpha values have been examined. The value of composite reliability was calculated from the formula given by Hair *et al.* (2006). It is evident that for all the constructs, both CR and Cronbach's alpha are more than the recommended value of 0.70 (Nunnally, 1978). Convergent validity was established by examining the loadings of each item. Items with loadings < 0.50 and having significant cross-loadings were dropped from further analysis (Costello and Osborne, 2011; Tabachnick and Fidell, 2007).

Discriminant validity was checked with recommendations of Fornell and Larcker (1981) where average variance extracted (AVE) for each construct was compared to the squared correlation of the construct in question. Table III depicts that none of the squared correlations were found to be exceeding the AVE for any particular construct, thus, establishing discriminant validity.

For a more stringent test, the correlation between the two variables was a priori fixed at 1.0. The chi-square value of difference is estimated between this restricted model and an unrestricted CFA model (Anderson and Gerbing, 1988). On comparing the original unrestricted model with every restricted model, all the cases have shown a significantly poorer fit (i.e. $\Delta\chi^2$ (1) > 3.84), indicating sufficient discriminant validity.

5. Results

5.1 Structural model
The structural model was tested using a hybrid model path analysis involving both measurement model (with only retained items), as well as the structural model. The model fit was satisfactory with IFI of 0.86, CFI at 0.86, NFI at 0.85 and Parsimony Ratio of 0.90. RMSEA obtained was 0.09 and RMR at 0.07. The fit measures were expected to be lower, as complete disaggregation models capture more information but return lower fit measures, as compared to partially aggregated path analysis (Bagozzi and Heatherton, 1994). Figure 2 summates both the measurement and structural model findings.

Looking at the individual hypothesis, we find that all of them are supported, except one. Table IV summarizes the results for different hypotheses.

5.2 Mediation test
The study additionally proposed the mediation effect of pleasure in use between the relation of usability/social value and brand equity dimensions of trust and loyalty. Direct effects of usability to both brand trust and brand loyalty were insignificant. However for social value, the direct effect on brand trust is significant while that on brand loyalty is not. The indirect effects were found significant for all the above relationships. Based on effects, it can be estimated that pleasure in use fully mediates the relationship between usability and both brand trust and loyalty, as well as that between social value and brand loyalty but only partially mediates the relation between social value and brand trust. For a more stringent test, path

Table II Item descriptive

CFA (χ^2 = 2431.5, df = 329, p = 0.00, NFI = 0.85, IFI = 0.86, CFI = 0.86, RMSEA = 0.08, RMR = 0.07)

Measure	Item	Mean	Standard deviation	Loading	p-value	CR	AVE	C-alpha
Usability	US2	4.48	0.71	0.63	0.00	0.88	0.54	0.83
	US3	4.17	0.91	0.63	0.00			
	US5	4.27	0.97	0.80	0.00			
	US7	4.24	0.84	0.64	0.00			
	US9	4.44	0.86	0.81	0.00			
Social value	SV1	3.97	1.15	0.80	0.00	0.95	0.81	0.92
	SV2	3.74	1.20	0.86	0.00			
	SV3	3.88	1.14	0.92	0.00			
	SV4	3.72	1.22	0.87	0.00			
Pleasure	PU2	4.12	1.06	0.88	0.00	0.95	0.62	0.93
	PU3	4.16	0.99	0.87	0.00			
	PU4	3.98	0.97	0.83	0.00			
	PU5	4.15	1.01	0.92	0.00			
Brand association	BA1	4.49	0.88	0.75	0.00	0.85	0.61	0.79
	BA2	4.25	0.82	0.73	0.00			
	BA3	4.55	0.79	0.78	0.00			
Perceived value	PV1	3.96	0.99	0.78	0.00	0.86	0.63	0.80
	PV2	4.06	1.09	0.97	0.00			
	PV4	4.40	0.78	0.54	0.00			
Brand trust	BT2	3.86	1.05	0.79	0.00	0.91	0.62	0.89
	BT3	3.78	0.93	0.64	0.00			
	BT4	3.68	0.94	0.79	0.00			
	BT5	3.81	1.08	0.89	0.00			
	BT6	3.56	1.21	0.83	0.00			
Brand loyalty	BL1	3.52	1.12	0.78	0.00	0.88	0.66	0.82
	BL2	3.26	1.22	0.71	0.00			
	BL3	3.95	1.18	0.75	0.00			
	BL4	3.99	0.89	0.70	0.00			

Notes: CR: Composite Reliability; AVE: Average Variance Extracted; C-Alpha: Cronbach's alpha; Only retained items have been depicted, rest of the items were dropped for further analysis

Table III Discriminant validity

Constructs	USAV	SVAV	PUAV	BAAV	PVAV	BTAV	BLAV	BEAV
USAV	*0.54*	–	–	–	–	–	–	–
SVAV	0.14	*0.81*	–	–	–	–	–	–
PUAV	0.44	0.46	*0.62*	–	–	–	–	–
BAAV	0.35	0.15	0.25	*0.61*	–	–	–	–
PVAV	0.28	0.15	0.27	0.19	*0.61*	–	–	–
BTAV	0.15	0.35	0.33	0.15	0.23	*0.63*	–	–
BLAV	0.17	0.26	0.34	0.16	0.25	0.48	*0.62*	–
BEAV	0.16	0.24	0.27	0.16	0.27	0.45	0.58	*0.66*

Note: The italic numbers are AVE (Average Variance Extracted)

model (conducted by summating the measures for each construct) is executed, and path coefficients of independent variable to the dependent variable (DV) across a constrained model (path of mediator to DV set to zero) and an unconstrained model are compared (Baron and Kenny, 1986). The interpretation of the level of mediation is partial if the direct path remains significant in both cases while it is full mediation in case path is insignificant in the unconstrained

model. Table V summarizes the mediation test using his methodology.

It is observed that with this test, the relation of usability to brand loyalty and social value is fully mediated, while the one between social value and brand trust is partially mediated. In the path from usability to brand trust, the path coefficients remain insignificant in both models, thus depicting no mediation. Hence, except for *H11*, all the

Figure 2 Structural model
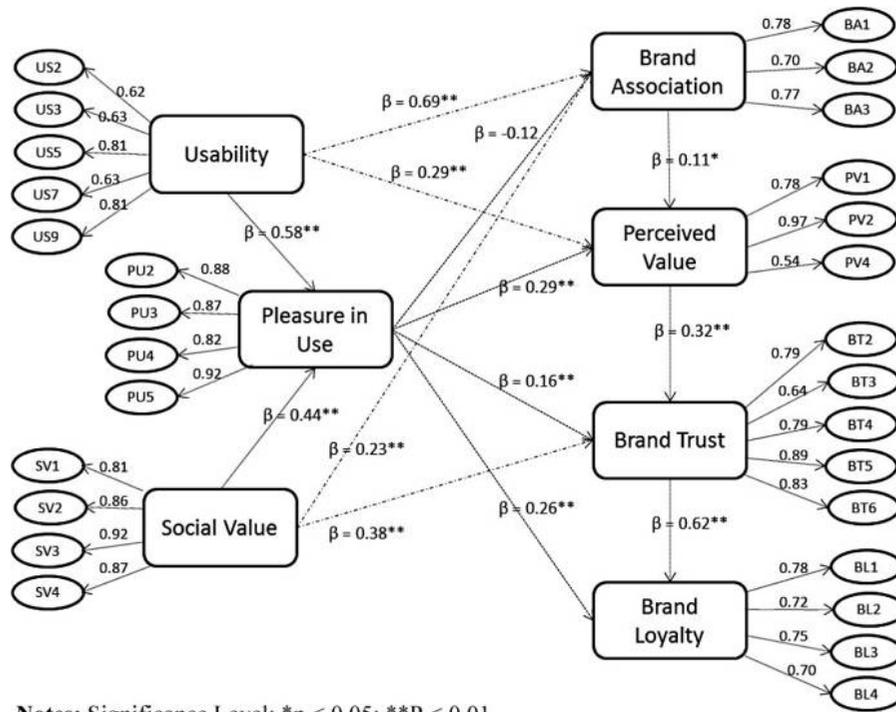
Notes: Significance Level: *p < 0.05; **P < 0.01

hypotheses are in line with the estimation based on direct and indirect effects.

5.3 Moderation test

Moderation test was conducted using hierarchical moderated regression analysis (HMRA) (Sharma *et al.*, 1981). Both the independent and moderator variables (continuous) were mean centered to prevent bias in the regression coefficients (Aiken and West, 1991). Lifestyle was converted into a categorical variable by performing cluster analysis on the 17-item scale. Four clusters were obtained using hierarchical cluster method. Cluster descriptions were obtained using K-means cluster method. Table VI summarizes the key cluster descriptors.

The moderation test of this categorical variable using HMRA was conducted by the dummy variable technique (Gujarati, 1970). Three dummy variables were introduced in the regression equations of the HMRA process, with the cluster of image-seekers taken as the base variable. Summated measures of constructs were created for this analysis. The moderator was classified depending on the significance of the coefficients of the interaction term, as well as those of predictor and moderator variables. All the independent variables were found to have variance inflation factor (VIF) values less than the threshold value of 3.3, indicating lack of multi-collinearity. The results of the HRMA analysis, depicted in Table VII, show that as the interaction terms are added, only 1.3 per cent

Table IV Summary of path analysis

Hypothesis	Path	Standardized estimates	Result	Fit index
H1	Usability → Brand Association	0.69 ($t = 7.85$)	Accepted	$\chi^2 = 2465.4$, df = 336,
H2	Usability → Perceived Value	0.29 ($t = 3.90$)	Accepted	$p = 0.00$, IFI = 0.86,
H3	Social Value → Brand Association	0.23 ($t = 3.52$)	Accepted	CFI = 0.86, NFI = 0.85,
H4	Social Value → Brand Trust	0.38 ($t = 7.70$)	Accepted	RMR = 0.07 and
H5	Pleasure → Brand Association	−0.12 ($t = -1.17$)	Rejected	RMSEA = 0.09
H6	Pleasure → Perceived Value	0.29 ($t = 4.50$)	Accepted	
H7	Pleasure → Brand Trust	0.16 ($t = 2.85$)	Accepted	
H8	Pleasure → Brand Loyalty	0.26 ($t = 6.57$)	Accepted	
H9	Usability → Pleasure	0.58 ($t = 14.37$)	Accepted	
H10	Social Value → Pleasure	044 ($t = 14.79$)	Accepted	
H15	Brand Association → Perceived Value	0.11 ($t = 2.03$)	Accepted	
H16	Perceived Value → Brand Trust	0.32 ($t = 8.23$)	Accepted	
H17	Brand Trust → Brand Loyalty	0.62 ($t = 13.25$)	Accepted	

Table V Mediation test results

Hypothesis	Path: IV→DV	Path via pleasure	Standard path coefficient	χ^2 (df)	CFI	IFI	NFI	RMSEA	Result
H11	Usability → Brand Trust	Constrained	0.01	65.1 (7)	0.97	0.97	0.97	0.11	No mediation
		Unconstrained	−0.06	34.4 (6)	0.99	0.99	0.99	0.08	
H12	Usability → Brand Loyalty	Constrained	0.09**	93.1 (7)	0.96	0.96	0.96	0.13	Full mediation
		Unconstrained	−0.01	38.1 (6)	0.99	0.99	0.98	0.08	
H13	Social Value → Brand Trust	Constrained	0.49**	65.3 (8)	0.98	0.98	0.97	0.10	Partial mediation
		Unconstrained	0.37**	38.2 (7)	0.99	0.99	0.98	0.08	
H14	Social Value → Brand Loyalty	Constrained	0.17**	77.8 (7)	0.97	0.97	0.97	0.09	Full mediation
		Unconstrained	0.04	36.8 (6)	0.99	0.99	0.98	0.08	

Note: ** $p < 0.01$ (Significant at 99% level of confidence)

additional variance is explained ($\Delta F = 4.12$, $p = 0.00$) in pleasure in use. Examination of the individual interaction terms reveals that only the interaction term of expertise and usability is significant. Thus, by just looking at the interaction terms, it is concluded that lifestyle does not moderate the relationship between usability or social value and pleasure in use. However, as both the main effects of expertise on pleasure as well as the interaction effect with usability are significant, we conclude that expertise does moderate this relationship. To revalidate the lack of moderating effect of lifestyle, a multi-group analysis was done with the four clusters. The $\Delta\chi^2$ value was compared across the models run for these clusters pairwise, and for each case, the value was found non-significant, implying model invariance across the groups conforming that lifestyle is not a moderator.

6. General discussion and implications

6.1 Discussion

Great experiences are derived from indulgent designs which ultimately endear a brand to the consumer. Behavioral loyalty in form of repeat purchases and willingness to pay higher prices are a natural outcome – a signal of high CBBE (Netemeyer *et al.*, 2004). Through a focused literature review, a robust theoretical framework was proposed relating user experience and CBBE. The results of our study provided much needed empirical support to the arguments emerging from prior studies, by establishing that consumption values like usability, social value and usage pleasure have a definitive effect on hierarchal brand equity formation for digital devices like smartphones (Chitturi *et al.*, 2008; Brakus *et al.*, 2009; Kumar *et al.*, 2013).

Although we found usage pleasure to be fully mediating relationship from consumption values and brand loyalty, it is not so for brand trust development. We also found that usability has a positive influence on both brand association and perceived value. As consumers find a phone more useful and easy to use (usability), the corresponding brand gets impinged in their minds for recall and association but still does not convince them to develop trust or loyalty (Keller, 2003). However, with greater usefulness, consumers find their money well spent on the brand. We also found that social implications of the smartphone also have a significant effect on brand association. It further enhances the trust in the brand as a common denominator for social

Table VI Cluster description

Cluster 1: heavy users	Cluster 2: old fashioned	Cluster 3: show-offers	Cluster 4: image seekers
Lots of calls and texts	Use only for connecting to people and organizing things	Don't write text a lot	Always connected to Internet
Always connected to Internet	Prefer basic phones	Change mobile phone frequently	Write and get a lot of texts
Pay mobile bills easily	Keep mobiles for long times before replacing	Love expensive phones	Like latest phones
Write text a lot	All operators are same	Will use more mobiles in future	Like phone matching with image
Keep checking mobile all the time	Won't use much mobile in future	Mobile can do a lot of things	Change ringing tones a lot
Feel uncomfortable without mobile			Like trendy operators
Talk in public place			Prefer high-priced phones
Like latest features			Change mobile phones frequently
Will use even more in future			

Note: Shaded area is blank to represent absence of data

Table VII HRMA analysis

Independent variables	Pleasure in Use		
	Model 1 standardized β	Model 2 standardized β	Model 3 standardized β
Main effects			
Usability	0.452***	0.436***	0.126
Social value	0.523***	0.512***	0.526***
Moderator			
Expertise		0.012	−0.489***
Lifestyle dummy 1		0.057	0.750**
Lifestyle dummy 2		−0.018	0.203
Lifestyle dummy 3		0.033	0.294
Interaction terms			
Usability × expertise			0.729***
Usability × lifestyle dummy 1			−0.539
Usability × lifestyle dummy 2			−0.306
Usability × lifestyle dummy 3			−0.295
Social value × lifestyle dummy 1			−0.179
Social value × Lifestyle dummy 2			0.098
Social value × Lifestyle dummy 3			0.037
R^2	0.643	0.648	0.661
Adjusted R^2	0.642	0.645	0.655
F Change	665.92***	2.61*	4.12***
ΔR^2	0.642	0.005	0.013

Notes: Significance *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

acceptance. With usage pleasure related to all dimensions of brand equity, except brand association, we conclude that emotions are indeed bedrock of CBBE. Unless a consumer feels a sense of pleasure using a smartphone, the emotional brand attachment does not happen (Lassar *et al.*, 1995).

A novel finding of the study was the process of generation of brand equity in stages. Initially, experience defined by usability and social value causes consumer happiness with the product. Consumers, then, start getting attached to the brand and different stages of brand equity follow till the consumer becomes completely loyal to the brand, a conclusion supported by a strong relation between different stages of experience and brand equity. However, the entire process from consumption to brand loyalty is not strictly sequential, as we do find relations of usability and social value with certain stages of brand equity. A final critical finding lies in the importance of expertise affecting usability derived pleasure, with experts finding more happiness from usability. We, however, could not establish lifestyle as moderator implying the universal flow of consumption experience irrespective of lifestyle.

6.2 Theoretical contributions

The domains of consumption experience (led by Holbrook and Hirschman, 1982) and brand experience (Brakus *et al.*, 2009) have gone far in relating useful experiences with products and brands and their outcomes for positive brand impressions. The study takes forward the theory of brand experience in two ways – first, by reiterating the importance of emotional value as a critical undercurrent of brand-related experience (Brakus *et al.*, 2009) and, second, enhancing the meaning of brand experience by dichotomizing consumption experience and brand equity in a

consumer – brand interaction from a digital product perspective, as already mentioned. We could achieve so by integrating two divergent theories – consumption value theory (Holbrook, 1999) and brand equity theory (Aaker, 1991; Keller, 2003) with the theory of brand experience (Brakus *et al.*, 2009) to germinate a novel model of experience derived CBBE.

A unique contribution of this work lies in introduction of the construct "usability" from the human computer interaction literature, into the marketing domain, as a valid measure for functional value of product usage giving the study an interdisciplinary flavor. As a final contribution, we have provided empirical support to the newly emerging thought process of sequential development of brand equity. The lower tier of brand equity dimensions – brand association and perceived value – were found to be strongly related to the higher tier (trust and loyalty). In terms of interpreting this sequence from our study context, first a positive brand association is formed from consumption experience. The positive association then convinces the user of the economic sense of buying and using the product of that brand. With continued pleasure derived from usage, a mutual trust develops which then finally translates into brand loyalty. The findings are in line with recent works in this area done by Chaudhari and Holbrook (2001), Pappu and Quester (2008) and Yoo *et al.* (2000).

6.3 Practical contributions

Smartphone manufacturers are struggling every day to define new design paradigms that not only act as source of great user experience but also a conduit for positive and strong brand overtones. The findings of the study pave way for some permutations that can help the practitioners in achieving that.

The first and clear pointer is that creating usage pleasure should be the prime aim of the smartphone manufacturer by making a product that is usable as well as enhances social status. With the items that have loaded well in the analysis, usability implies some design echoes that need to be there in the smartphone – the user should "use the phone more frequently" (*addictive*), "be simple to use", does not require "expert help for use", is "easy to learn" (*intuitive*), helps the respondent "accomplish tasks" (*effective*), should have "well-integrated functions" (*efficient*) and make the user "confident of using the phone"(*reliable*). From a social value perspective, a phone with an effective design should enable "acceptance is a group" (*contemporary*); "enhances status" (*great aesthetics*); "change the way a person is perceived" (*matching personality*); and "make good impression" (*attractive*). Thus, having design attributes that can create usability and social values is a sure ticket to building a positive brand equity.

Marketers also need to understand that brand loyalty cannot be expected just from making usable products. The relation is completely indirect and needs to be approached with two parallel sequential routes – one starting from usability through brand association and perceived value and another from pleasure. The importance of social value cannot be neglected, as it is instrumental in determining usage pleasure, much more than usability. Marketing smartphones in a way that not only they convey usability to the user but also seem to enhance her status, is a sure shot route to achieving sustained brand loyalty. A final way forward for a practitioner lies in segmenting the consumers based on their expertise. With expertise playing a critical role in pleasure derived from usability, marketers and designers need to understand that design requirements and its usability for experts will be different from that of novices. While experts can handle complex phones and find them more usable and derive more pleasure from using them, non-experts need intuitive designs requiring lesser cognitive processing for similar usability.

7. Limitations and future directions

A critical drawback of the study is that despite literature evidence, the study could not establish the moderation effect of lifestyle on the usability and social value-derived pleasure. A possible reason may lie with the methodology of measuring lifestyle adopted. Wilska's (2003) scale, developed in a period of mobile phone inception, contains items that may not be applicable to contemporary smartphone users. Those items can confound the clusters obtained, leading to challengeable results. A sincere effort to adapt and validate the scale to modern context is a pressing issue.

Another drawback of the model is that it does not entail the behavioral outcome of the consumption values and brand equity in the form of re-purchase intention or willingness to pay higher price or even actual brand repurchase. From a managerial perspective, the findings are less relevant, as the study cannot directly attribute experiential values into much more tangible behavioral outcomes. A plethora of modern studies perform these tests in a longitudinal setting to test if the user actually stayed with the brand in her next purchase. The current study also needs to extend on these lines to make the findings more useful and actionable for practicing managers.

Further, the study has used only survey method as means of data collection which may give biased results due to common method variance. Covering this drawback requires systematic employment of other techniques like actual usability testing in laboratory conditions, observational methods to track user re-purchase behavior, netnography to check how the user is involved with the brand online in various forums and focus groups to establish the links envisaged in the study.

As a final recommendation of future work, the model can be extended to other similar product categories to check the external validity of the model and establish it for the overall category of digital devices. Some of the results, like moderation effect of expertise and lack of moderation of lifestyle, may be contextual results and need to be validated with other categories as well.

References

Aaker, D.A. (1991), *Managing Brand Equity*, The Free Press, New York, NY.

Aaker, D.A. (1996), "Measuring brand equity across products and markets", *California Management Review*, Vol. 38 No. 3, pp. 102-120.

Aiken, L.S. and West, S.G. (1991), *Multiple Regression: Testing and Interpreting Interactions*, Sage, Newbury Park, CA.

Alba, J.W. and Hutchinson, J.W. (1987), "Dimensions of consumer expertise", *Journal of Consumer Research*, Vol. 13 No. 1, pp. 411-454.

Anderson, J.C. and Gerbing, D.W. (1988), "Structural equation modeling in practice: a review and recommended two-step approach", *Psychological Bulletin*, Vol. 103 No. 3, pp. 411-423.

Babin, B.J., Darden, W.R. and Griffin, M. (1994), "Work and/or fun: measuring hedonic and utilitarian shopping value", *Journal of Consumer Research*, Vol. 20 No. 4, pp. 644-656.

Baek, T.H., Kim, J. and Yu, J.H. (2010), "The differential roles of brand credibility and brand prestige in consumer brand choice", *Psychology and Marketing*, Vol. 27 No. 7, pp. 662-678.

Bagozzi, R.P. and Heatherton, T.F. (1994), "A general approach to representing multifaceted personality constructs: application to state self-esteem", *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 1 No. 1, pp. 35-67.

Bandura, A. (1986), *Social Foundations of Thought and Action: A Social-Cognitive View*, Prentice-Hall, Englewood Cliffs, NJ.

Baron, R.M. and Kenny, D.A. (1986), "The moderator – mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51 No. 6, pp. 1173-1182.

Ben-Bassat, T., Meyer, J. and Tractinsky, N. (2006), "Economic and subjective measures of the perceived value of aesthetics and usability", *ACM Transactions on Computer-Human Interaction*, Vol. 13 No. 2, pp. 210-234.

Biedenbach, G. and Marell, A. (2010), "The impact of customer experience on brand equity in a business-to-business services setting", *Journal of Brand Management*, Vol. 17 No. 6, pp. 446-458.

Blinkoff, R. (2001), *The Mobiles: Social Evolution in a Wireless Society*, Context-Based Research Group, Baltimore, MD.

Bolchini, D., Garzotto, F. and Sorce, F. (2009), "Does branding need web usability? A value-oriented empirical

study", in *Human-Computer Interaction – INTERACT 2009*, Springer, Berlin, Heidelberg, pp. 652-665.

Brakus, J.J., Schmitt, B.H. and Zarantonello, L. (2009), "Brand experience: what is it? How is it measured? Does it affect loyalty?", *Journal of Marketing*, Vol. 73 No. 3, pp. 52-68.

Brooke, J. (1986), "System usability scale (SUS): a quick-and-dirty method of system evaluation", *User Information*, Digital Equipment Co, Reading.

Carù, A. and Cova, B. (2003), "Revisiting consumption experience a more humble but complete view of the concept", *Marketing Theory*, Vol. 3 No. 2, pp. 267-286.

Chang, P.L. and Chieng, M.H. (2006), "Building consumer – brand relationship: a cross-cultural experiential view", *Psychology and Marketing*, Vol. 23 No. 11, pp. 927-959.

Chapman, P., Selvarajah, S. and Webster, J. (1999), "Engagement in multimedia training systems", in *Systems Sciences, Proceedings of the 32nd Annual Hawaii International Conference, Maui, HI, IEEE*, pp. 9-15.

Charles, K., Hurst, E. and Roussanov, N. (2007), "Conspicuous consumption and race", working paper 13392, National Bureau of Economic Research, Cambridge, MA.

Chaudhari, A. and Holbrook, M.B. (2001), "The Chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty", *Journal of Marketing*, Vol. 65 No. 2, pp. 81-93.

Chen, H.L. (2007), "Gray marketing and its impacts on brand equity", *Journal of Product & Brand Management*, Vol. 16 No. 4, pp. 247-256.

Chitturi, R., Raghunathan, R. and Mahajan, V. (2008), "Delight by design: the role of hedonic versus utilitarian benefits", *Journal of Marketing*, Vol. 72 No. 3, pp. 48-63.

Church, K. and Oliver, N. (2011), "Understanding mobile web and mobile search use in today's dynamic mobile landscape", in *Proceedings of the 13th International Conference on Human Computer Interaction with Mobile Devices and Services*, Stockholm, ACM, pp. 67-76.

Costello, A.B. and Osborne, J.W. (2011), "Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis", *Practical Assessment, Research and Evaluation*, Vol. 10 No. 5, pp. 1-9.

Crilly, N., Moultrie, J. and Clarkson, P.J. (2004), "Seeing things: consumer response to the visual domain in product design", *Design studies*, Vol. 25 No. 6, pp. 547-577.

Cyr, D., Head, M. and Ivanov, A. (2006), "Design aesthetics leading to m-loyalty in mobile commerce", *Information and Management*, Vol. 43 No. 8, pp. 950-963.

Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, pp. 319-339.

Dawes, J. (2008), "Do data characteristics change according to the number of scale points used? An experiment using 5 point, 7 point and 10 point scales", *International Journal of Market Research*, Vol. 51 No. 1, pp. 61-104.

Delgado-Ballester, E. (2004), "Applicability of a brand trust scale across product categories: a multigroup invariance analysis", *European Journal of Marketing*, Vol. 38 Nos. 5/6, pp. 573-592.

Delgado-Ballester, E. and Munuera-Aleman, J.L. (2001), "Brand trust in the context of consumer loyalty", *European Journal of marketing*, Vol. 35 Nos 11/12, pp. 1238-1258.

Delgado-Ballester, E. and Munuera-Aleman, J.L. (2005), "Does brand trust matter to brand equity?", *Journal of Product and Brand Management*, Vol. 14 No. 3, pp. 187-196.

Dillman, D.D. (2000), *Mail and Internet Surveys: The Tailored Design Method*, John Wiley, New York, NY.

Dubois, B. and Laurent, G. (1994), "Attitudes toward the concept of luxury: an exploratory analysis", *Asia-Pacific Advances in Consumer Research*, Vol. 1 No. 2, pp. 273-278.

Duman, T. and Mattila, A.S. (2005), "The role of affective factors on perceived cruise vacation value", *Tourism Management*, Vol. 26 No. 3, pp. 311-323.

Einhorn, H.J. and Hogarth, R.M. (1981), "Behavioral decision theory: processes of judgment and choice", *Journal of Accounting Research*, Vol. 19 No. 1, pp. 1-31.

Faircloth, J.B., Capella, L.M. and Alford, B.L. (2001), "The effect of brand attitude and brand image on brand equity", *Journal of Marketing*, Vol. 9 No. 3, pp. 61-75.

Ferguson, R.J., Paulin, M. and Bergeron, J. (2010), "Customer sociability and the total service experience: antecedents of positive word-of-mouth intentions", *Journal of Service Management*, Vol. 21 No. 1, pp. 25-44.

Fornell, C. and Larcker, D.F. (1981), "Structural equation models with unobservable variables and measurement error: algebra and statistics", *Journal of Marketing Research*, Vol. 18 No. 3, pp. 382-388.

Gabriel, Y. and Lang, T. (2008), "New faces and new masks of today's consumer", *Journal of Consumer Culture*, Vol. 8 No. 3, pp. 321-340.

Gard, D.E., Kring, A.M., Gard, M.G., Horan, W.P. and Green, M.F. (2007), "Anhedonia in schizophrenia: distinctions between anticipatory and consummatory pleasure", *Schizophrenia research*, Vol. 93 No. 1, pp. 253-260.

Garrett, J.J. (2003), *The Elements of User Experience: User-centered Design for the Web*, New Riders Publications, IN.

Gujarati, D. (1970), "Use of dummy variables in testing for equality between sets of coefficients in linear regressions: a generalization", *The American Statistician*, Vol. 24 No. 5, pp. 18-22.

Hair, J.F., Anderson, R.E., Tatham, R.L. and Black, W.C. (2006), *Multivariate Data Analysis*, Pearson Education, Upper Saddle River, NJ.

Hallnäs, L. and Redström, J. (2002), "From use to presence: on the expressions and aesthetics of everyday computational things", *ACM Transactions on Computer-Human Interaction*, Vol. 9 No. 2, pp. 106-124.

Hassenzahl, M. (2004), "The interplay of beauty, goodness, and usability in interactive products", *Human Computer Interaction*, Vol. 19 No. 4, pp. 319-349.

Helkkula, A. and Kelleher, C. (2010), "Circularity of customer service experience and customer perceived value", *Journal of Customer Behavior*, Vol. 9 No. 1, pp. 37-53.

Holbrook, M.B. (1996), "Customer value – a framework for analysis and research", *Advances in Consumer Research*, Vol. 23 No. 1, pp. 138-142.

Holbrook, M.B. (1999), *Consumer Value: A Framework for Analysis and Research*, Psychology Press, Kentucky, USA.

Holbrook, M.B. and Hirschman, E.C. (1982), "The experiential aspects of consumption: consumer fantasies, feelings, and fun", *Journal of Consumer Research*, Vol. 9 No. 2, pp. 132-140.

Hoyer, W.D. (1984), "An examination of consumer decision making for a common repeat purchase product", *Journal of Consumer Research*, Vol. 11 No. 3, pp. 822-829.

Johnson, E.J. and Russo, J.E. (1984), "Product familiarity and learning new information", *Journal of Consumer Research*, Vol. 8 No. 1, pp. 542-550.

Johnson, W. and Kieras, D. (1983), "Representation-saving effects of prior knowledge in memory for simple technical prose", *Memory and Cognition*, Vol. 11 No. 5, pp. 456-466.

Jordan, P.W. (1998), "Human factors for pleasure in product use", *Applied Ergonomics*, Vol. 29 No. 1, pp. 25-33.

Kapferer, J.N. (1992), *Strategic Brand Management, New Approaches to Creating and Evaluating Brand Equity*, Free Press, New York, NY.

Kekre, S., Krishnan, M.S. and Srinivasan, K. (1995), "Drivers of customer satisfaction for software products: implications for design and service support", *Management Science*, Vol. 41 No. 9, pp. 1456-1470.

Keller, K.L. (1993), "Conceptualizing, measuring, and managing customer-based brand equity", *Journal of Marketing*, Vol. 57 No. 1, pp. 1-22.

Keller, K.L. (2003), "Brand synthesis: the multidimensionality of brand knowledge", *Journal of Consumer Research*, Vol. 29 No. 4, pp. 595-600.

Keller, K.L. and Lehmann, D.R. (2003), "How do brands create value?", *Marketing Management*, Vol. 12 No. 3, pp. 26-31.

Kim, B. and Han, I. (2011), "The role of utilitarian and hedonic values and their antecedents in a mobile data service environment", *Expert Systems with Applications*, Vol. 38 No. 3, pp. 2311-2318.

Kim, H.W., Chan, H.C. and Chan, Y.P. (2007), "A balanced thinking – feelings model of information systems continuance", *International Journal of Human-Computer Studies*, Vol. 65 No. 6, pp. 511-525.

Kim, J. and Moon, J.Y. (1998), "Designing towards emotional usability in customer interfaces – trustworthiness of cyber-banking system interfaces", *Interacting with Computers*, Vol. 10 No. 1, pp. 1-29.

Kim, Y.H., Kim, D.J. and Wachter, K. (2013), "A study of mobile user engagement (MoEN): engagement motivations, perceived value, satisfaction, and continued engagement intention", *Decision Support Systems*, Vol. 56, pp. 361-370.

Kuhn, K.L., Alpert, F. and Pope, N.K. (2008), "An application of Keller's brand equity model in a B2B context", *Qualitative Market Research: An International Journal*, Vol. 11 No. 1, pp. 40-58.

Kumar, R.S., Dash, S. and Purwar, P.C. (2013), "The nature and antecedents of brand equity and its dimensions", *Marketing Intelligence and Planning*, Vol. 31 No. 2, pp. 141-159.

Langman, L. (1992), "Shopping for subjectivity", *Lifestyle Shopping; the Subject of Consumption*, Routledge, London, pp. 40-82.

Langner, T. and Krengel, M. (2011), "The mere categorization effect for complex products: the moderating role of expertise and affect", *Journal of Business Research*, Vol. 66 No. 7, pp. 924-932.

Lassar, W., Mittal, B. and Sharma, A. (1995), "Measuring customer-based brand equity", *Journal of Consumer Marketing*, Vol. 12 No. 4, pp. 11-19.

Lawler, E.J. (2001), "An affect theory of social exchange", *American Journal of Sociology*, Vol. 107 No. 2, pp. 321-352.

McClelland, J.L. (2000), "Connectionist models of memory", in Tulving, E. and Craik, F.I.M. (Eds), *The Oxford Handbook of Memory*, Oxford University Press, New York, NY, pp. 91-98.

McDonagh, D., Bruseberg, A. and Haslam, C. (2002), "Visual product evaluation: exploring users' emotional relationships with products", *Applied Ergonomics*, Vol. 33 No. 3, pp. 231-240.

Mano, H. and Oliver, R.L. (1993), "Assessing the dimensionality and structure of the consumption experience: evaluation, feeling, and satisfaction", *Journal of Consumer Research*, Vol. 20 No. 3, pp. 451-466.

Marks, L.E. (1996), "On perceptual metaphors", *Metaphors and Symbolic Activity*, Vol. 11 No. 1, pp. 39-66.

Mathwick, C., Malhotra, N. and Rigdon, E. (2001), "Experiential value: conceptualization, measurement and application in the catalog and internet shopping environment", *Journal of Retailing*, Vol. 77 No. 1, pp. 39-56.

Meehl, P.E. (1975), "Hedonic capacity: some conjectures", *Bulletin of the Menninger Clinic*, Vol. 39 No. 4, pp. 295-307.

Mitchell, A.A. and Dacin, P.A. (1996), "The assessment of alternative measures of consumer expertise", *Journal of Consumer Research*, Vol. 23 No. 3, pp. 219-239.

Moore, W.L. and Lehmann, D.R. (1980), "Individual differences in search behavior for a nondurable", *Journal of Consumer Research*, Vol. 7 No. 3, pp. 296-307.

Muniz, A.M. and O'Guinn, T. (2000), "Brand community", *Journal of Consumer Research*, Vol. 27 No. 1, pp. 412-432.

Netemeyer, R.G., Krishnan, B., Pullig, C., Wang, G., Yagci, M., Dean, D., Ricks, J. and Wirth, F. (2004), "Developing and validating measures of facets of customer-based brand equity", *Journal of Business Research*, Vol. 57 No. 2, pp. 209-224.

Nielsen, J. (1993), *Usability Engineering*, AP Professional, New York, NY.

Noble, C.H. and Kumar, M. (2008), "Using product design strategically to create deeper consumer connections", *Business Horizons*, Vol. 51 No. 5, pp. 441-450.

Nunnally, J. (1978), *Psychometric Theory*, 2nd ed., McGraw-Hill, New York, NY.

O'Brien, H.L. and Toms, E.G. (2008), "What is user engagement? A conceptual framework for defining user engagement with technology", *Journal of the American Society for Information Science and Technology*, Vol. 59 No. 6, pp. 938-955.

Palmgreen, P., Wenner, L. and Rosengren, K. (1985), "Uses and gratifications research: the past ten years", in Rosengren, K., Wenner, L. and Palmgreen, P. (Eds), *Media Gratifications Research*, Sage, Beverly Hills, CA, pp. 11-37.

Pappu, R. and Quester, P.G. (2008), "Does brand equity vary between department stores and clothing stores? Results of

an empirical investigation", *Journal of Product & Brand Management*, Vol. 17 No. 7, pp. 425-435.

Park, C.W. (1976), "The effect of individual and situation-related factors on consumer selection of judgmental models", *Journal of Marketing Research*, Vol. 13 No. 2, pp. 144-151.

Park, C.W., Jaworski, B.J. and MacInnis, D.J. (1986), "Strategic brand concept-image management", *Journal of Marketing*, Vol. 50 No. 4, pp. 135-145.

Park, S., Harada, A. and Igarashi, H. (2006), "Influences of personal preference on product usability", in *CHI'06 Extended Abstracts on Human Factors in Computing Systems*, ACM, New York, USA, pp. 87-92.

Payne, J.W. (1976), "Task complexity and contingent processing in decision making: an information search and protocol analysis", *Organizational Behavior and Human Performance*, Vol. 16 No. 2, pp. 366-387.

Petruzzellis, L. (2008), "Smartphone phone choice: technology vs. marketing. The brand effect in Italian market", *European Journal of Marketing*, Vol. 44 No. 5, pp. 610-634.

Raju, P.S. (1977), "Product familiarity, brand name, and price influences on product evaluation", *Advances in Consumer Research*, Vol. 4 No. 1, pp. 64-71.

Rao, A.R. and Ruekert, R.W. (1994), "Brand alliances as signals of product quality", *Sloan Management Review*, Vol. 36, October 15, pp. 87-87.

Rauyruen, P., Miller, K.E. and Groth, M. (2009), "B2B services: linking service loyalty and brand equity", *Journal of Services Marketing*, Vol. 23 No. 3, pp. 175-186.

Roux, E. and Floch, J.M. (1996), "Gérer l'ingérable: La contradiction interne de toute maison de luxe", *Décisions Marketing*, No. 9, pp. 15-23.

Russell, J.A. and Lanius, U.F. (1984), "Adaptation level and the affective appraisal of environments", *Journal of Environmental Psychology*, Vol. 4 No. 2, pp. 119-135.

Russo, J.E. and Dosher, B.A. (1983), "Strategies for multi-attribute binary choice", *Journal of Experimental Psychology: Learning, Memory, and Cognition*, Vol. 9 No. 4, pp. 676-696.

Sánchez-Fernández, R. and Iniesta-Bonillo, M.Á. (2007), "The concept of perceived value: a systematic review of the research", *Marketing Theory*, Vol. 7 No. 4, pp. 427-451.

Schmitt, B. (1999), "Experiential marketing", *Journal of Marketing Management*, Vol. 15 No. 1, pp. 53-67.

Sen, S. (1999), "The effects of brand name suggestiveness and decision goal on the development of brand knowledge", *Journal of Consumer Psychology*, Vol. 8 No. 4, pp. 431-455.

Seva, R.R. and Helander, M.G. (2009), "The influence of cellular phone attributes on users' affective experiences: a cultural comparison", *International Journal of Industrial Ergonomics*, Vol. 39 No. 2, pp. 341-346.

Sharma, S., Durand, R.M. and Gur-Arie, O. (1981), "Identification and analysis of moderator variables", *Journal of Marketing Research*, Vol. 18 No. 3, pp. 291-300.

Sheng, M.L. and Teo, T.S. (2012), "Product attributes and brand equity in the mobile domain: the mediating role of customer experience", *International Journal of Information Management*, Vol. 32 No. 2, pp. 139-146.

Sheth, J.N., Newman, B.I. and Gross, B.L. (1991a), "Why we buy what we buy: a theory of consumption values", *Journal of Business Research*, Vol. 22 No. 2, pp. 159-170.

Sheth, J.N., Newman, B.I. and Gross, B.L. (1991b), *Consumption Values and Market Choices: Theory and Applications*, South-Western Pub., Cinicinnati, OH, pp. 16-74.

Srinivasan, R. and Moorman, C. (2005), "Strategic firm commitments and rewards for customer relationship management in online retailing", *Journal of Marketing*, Vol. 69 No. 4, pp. 193-200.

Steenkamp, J.B.E., Batra, R. and Alden, D.L. (2003), "How perceived brand globalness creates brand value", *Journal of International Business Studies*, Vol. 34 No. 1, pp. 53-65.

Sweeney, J.C. and Soutar, G.N. (2001), "Consumer perceived value: the development of a multiple item scale", *Journal of Retailing*, Vol. 77 No. 2, pp. 203-220.

Tabachnick, B.G. and Fidell, L.S. (2007), *Experimental Designs Using ANOVA*, Thomson/Brooks/Cole, Belmont, CA.

Tolba, A.H. and Hassan, S.S. (2009), "Linking customer-based brand equity with brand market performance: a managerial approach", *Journal of Product & Brand Management*, Vol. 18 No. 5, pp. 356-366.

Venkatesh, V. and Brown, S.A. (2001), "A longitudinal investigation of personal computers in homes: adoption determinants and emerging challenges", *MIS Quarterly*, Vol. 25 No. 1, pp. 71-102.

Vigneron, F. and Johnson, L.W. (1999), "A review and a conceptual framework of prestige-seeking consumer behavior", *Academy of Marketing Science Review*, Vol. 1 No. 1, pp. 1-15.

Wang, H., Wei, Y. and Yu, C. (2008), "Global brand equity model: combining customer-based with product-market outcome approaches", *Journal of Product & Brand Management*, Vol. 17 No. 5, pp. 305-316.

Warlop, L., Ratneshwar, S. and Van Osselaer, S.M. (2005), "Distinctive brand cues and memory for product consumption experiences", *International Journal of Research in Marketing*, Vol. 22 No. 1, pp. 27-44.

Wilska, T.A. (2003), "Mobile phone use as part of young people's consumption styles", *Journal of Consumer Policy*, Vol. 26 No. 4, pp. 441-463.

Woodruff, R.B. and Gardial, S. (1996), *Know Your Customer: New Approaches to Customer Value and Satisfaction*, Blackwell Business, Cambridge, MA.

Yasin, N.M., Noor, M.N. and Mohamad, O. (2007), "Does image of country-of-origin matter to brand equity?" *Journal of Product & Brand Management*, Vol. 16 No. 1, pp. 38-48.

Yoo, B. and Donthu, N. (2001), "Developing and validating a multidimensional consumer-based brand equity scale", *Journal of Business Research*, Vol. 52 No. 1, pp. 1-14.

Yoo, B., Donthu, N. and Lee, S. (2000), "An examination of selected marketing mix elements and brand equity", *Journal of the Academy of Marketing Science*, Vol. 28 No. 2, pp. 195-211.

Young, S. and Barbara, F. (1975), "Using the benefit chain for improved strategy formulation", *Journal of Marketing*, Vol. 39 No. 3, pp. 72-74.

Appendix

Table AI Items for measuring various constructs

Construct (Code)	Item code	Item description	Scale source
Usability	US1	I use this phone frequently	System usability scale (Brooke, 1986)
	US2	I find the mobile simple to use	
	US3	I can accomplish the task more quickly using my phone	
	US4	I frequently need the help of an expert to be able to use this phone completely*	
	US5	I find the functions of this phone well integrated	
	US6	I feel there is too much inconsistency in the phone functions*	
	US7	I find this phone easy to learn	
	US8	I find this phone awkward to use*	
	US9	I feel very confident using the mobile	
	US10	I needed to learn a lot of things before I started using this phone*	
Social value	SV1	This mobile makes me feel acceptable in a group	PERVAL – Sweeney and Soutar (2001)
	SV2	This mobile improves the way I am perceived	
	SV3	This mobile makes a good impression on other people	
	SV4	This mobile enhances my social status	
Pleasure	PU1	This mobile is the one I really enjoy using	PERVAL – Sweeney and Soutar (2001)
	PU2	This mobile always makes me want to use it	
	PU3	I feel very relaxed while using this mobile phone	
	PU4	This mobile makes me feel very good	
	PU5	Using this mobile gives me great pleasure	
Brand association	BA1	I can recognize this brand's phone among other competing brands	Yoo and Donthu (2001)
	BA2	Some characteristics of this brand's phone come to my mind quickly	
	BA3	I can quickly recall the symbol or logo of this brand's phone	
	BA4	I have difficulty in imagining this brand's phone in my mind	
Perceived value	PV1	What I get from this phone is worth the cost	Netemeyer et al. (2004)
	PV2	All things considered (price, time and effort), this phone is not a good choice	
	PV3	Compared to other phones, this phone provides a good value for money	
	PV4	When I am using this phone, I feel I am not getting my money's worth	
Brand trust	BT1	This mobile brand offers products with constant quality levels	Delgado-Ballester and Munuera-Aleman (2001)
	BT2	The mobile brand helps me solve any problem I may have with the phone	
	BT3	The mobile brand offers me new products that I may need	
	BT4	The mobile brand is trustworthy	
	BT5	The mobile brand values me as a consumer	
	BT6	The mobile brand offers me advices on how to make most of its phone	
Brand loyalty	BL1	I consider myself loyal to this phone brand	Delgado-Ballester (2004)
	BL2	I am willing to pay more for this mobile brand than for others in the market	
	BL3	I will buy this mobile brand from another store if it's not available at one store	
	BL4	I will recommend others to buy this mobile brand	
Expertise	UE1	How familiar you are with smartphones	Raju (1977)
	UE2	How clear and idea do you have about which characteristics of the phone are important in giving you satisfaction	Park (1976)
	UE3	How much do you know about smartphones	Moore and Lehmann (1980)
	UE4	How do you rate your knowledge of smartphones compared to rest of the population	Johnson and Russo (1984)
Mobile usage lifestyle	LS1	It's important for me to receive a lot of call and text messages	Wilska (2003)
	LS2	I write a lot of text messages	
	LS3	I keep checking for possible calls/messages/updates all the time (modified)	
	LS4	I often make mobile calls without any purpose	
	LS5	I feel very uncomfortable if, for some reason, my mobile phone is not with me	
	LS6	I often have difficulties in paying my mobile bills	

Table AI

Construct (Code)	Item code	Item description	Scale source
	LS7	I often talk on my mobile in public places	
	LS8	It is important that my mobile is connected to the Internet	
	LS9	It's important that my phone has all the latest features and is "posh"	
	LS10	It's important that my phone fits with my clothing style and general image	
	LS11	I will probably use mobile phone even more in the future	
	LS12	A three-year-old mobile is too old fashioned for me	
	LS13	I often change logos/ringing tones	
	LS14	Some operators or type of connections are more trendy than others	
	LS15	The cheapest phone model is good enough for me	
	LS16	Price is the most important feature when choosing a phone	
	LS17	A mobile phone is useful only for connecting to people and organizing things	

About the authors

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