Predicting Smartphone Brand Loyalty Using Four-Stage Loyalty Model

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Abstract
Rapid advances in mobile technology with high product diversity have led to high levels of smartphone brand switching among users. Hence, customers’ brand loyalty is the key to a smartphone manufacturer’s survival in this highly competitive market. This study developed Oliver’s four-stage loyalty model by integrating major constituents of each loyalty stage with the incorporation of brand reputation as a moderator. This study adopted a cross-sectional design and collected quantitative data from 327 smartphone users in Malaysia. The results from the structural model supported the sequential process of loyalty development through cognitive (hedonic value), affective (brand satisfaction and emotional attachment), conative (brand trust), and action (smartphone brand loyalty). Contrary to expectation, cognitive (utilitarian value) has no impact on affective (brand satisfaction and emotional attachment). Further, the moderating impact of brand reputation on the linkage between conative (brand trust) and action (smartphone brand loyalty) was verified. The discussions, implications, and limitations are provided in this study.

Keywords
smartphone brand loyalty, utilitarian value, hedonic value, brand satisfaction, emotional attachment, brand trust, brand reputation

Introduction
In the era of Industry 4.0: Industrial Internet of Things (IIoT), smartphones are at the heart of all trends in IIoT. Smartphones appear to be the Human-Machine Interface (HMI) device of choice for IIoT application designs and analytic tools (Klaess, 2021). Certainly, the smartphone industry appears high in technological innovation. Many world’s top smartphone brand owners (Samsung, Apple, Lenovo, etc.) frequently release new model smartphones with sophisticated technological features in their constant battle for customer attention. Due to the wide variety of models in the market, it is extremely difficult to garner and maintain customer loyalty toward a specific smartphone brand. The hyper-competitive environment has thus increased the challenges faced by smartphone brand owners in maintaining their customer base (Kaur et al., 2020). In Malaysia, a recent report by Euromonitor International (2021) revealed that the market share of smartphone brand owners during the period of 2017 to 2021 was in a fluctuating and declining trend, demonstrating the need for industry players to protect and maintain their market share by retaining their existing customers base. Brand loyalty can make customers less likely to be tempted by competitors’ marketing efforts whilst creating substantial entry barriers for opponents, leading to the improved financial performance of a firm (Delgado-Ballester & Munuera-Aleman, 2001). Hence, it is mandatory for smartphone brand owners, particularly those in Malaysia, to know the driving forces of brand loyalty (Linda, 2017).

As far as brand loyalty studies in the smartphone sector are concerned, Hew et al. (2017) indicated that insufficient research had been undertaken to understand customers’ repurchase behavior in the smartphone sector. M. K. Kim et al. (2016) highlighted that more research is needed to understand customers’ loyalty toward the smartphone brand. Filieri and Lin (2016) further pointed out that researchers have devoted considerable attention to consumer decision to adopt smartphones, yet research on consumers repurchase intention of smartphone brands is still scant. Lin et al. (2015)
stated that not many studies were conducted to understand consumers’ repetitive brand purchasing for information technology (IT) products such as smartphones. In addition, Lam and Shankar (2014) stated that prior researchers have largely investigated the drivers of brand loyalty in general but not the smartphone market in particular. In the smartphone market, Rathnayake (2021) stressed the need of identifying the predictors of consumer loyalty. As a result, an integrated brand loyalty study in a smartphone scenario is deemed necessary and worthwhile (Islam et al., 2019; Rasool et al., 2020).

According to researchers, Oliver’s (1997) four-stage loyalty model is considered the most comprehensive theoretical approach to brand loyalty because it adequately captures attitudinal and behavioral loyalty (Han et al., 2011; Han & Hyun, 2012). This model theorizes that attitudinal loyalty develops via three stages: cognitive loyalty, affective loyalty, and conative loyalty, with behavioral loyalty or action as the outcome of this sequential process. In other words, customer brand loyalty does not just happen, but it develops through cognitive, affective, and conative, and action stages. Most previous studies have investigated the sequential linkage of these stages (Back & Parks, 2003; Blut et al., 2007; Evanschitzky & Wunderlich, 2006; Han & Hyun, 2012; Yuksel et al., 2010). Surprisingly, the major constituents of each loyalty stage remain under exploration. In support of this view, Han et al. (2011) affirm that prior studies on Oliver’s four-stage model primarily focused on a comprehensive approach of each loyalty stage while ignoring the roles of its major components. Therefore, to improve the predictive power of Oliver’s four-stage loyalty model in developing smartphone brand loyalty, the major constituents of each loyalty stage that is relevant to the smartphone context were integrated into the model in this study.

Furthermore, Blut et al. (2007) mentioned that although Oliver’s four-stage loyalty model has been subjected to various empirical examinations, the moderator variable issue in this model has not been given much attention. The study by Lin et al. (2015) raised concern about how a customer moves from conative loyalty to action loyalty (behavioral) and highlights the need for further investigations. According to Gounaris and Stathakopoulos (2004), the reputation of a brand strengthens the loyalty behavior of customers by rewarding their choice and making the brand more desirable and alluring. Such a concept implies that the reputation of a smartphone brand can be a strong facilitator in predicting customer’s brand loyalty as the customers may be interested in sticking with a mobile brand that has a good reputation instead of one with a poor reputation. Moreover, strong brands represent a key asset in the uncertain, crowded, and ever-changing environment (Christodoulides, 2009). Hence, in the smartphone industry, with a short product lifecycle, high product diversity and fast update rates, having a reputable brand seem to be a potential facilitator in gaining customers’ ultimate loyalty (action). Therefore, this study incorporated brand reputation as a moderator in the linkage between conative loyalty and action loyalty.

Consequently, this present study attempted to develop an integrative brand loyalty model in the smartphone context, addressing current research gaps. The detailed objectives of this research include (1) investigating the relationships among cognitive drivers, affective drivers, and conative drivers in the formation of brand loyalty, (2) examining the moderating role of brand reputation linkage between conative loyalty and action loyalty; and (3) testing the mediating role of research constructs within the proposed theoretical framework.

**Review of the Literature**

**Four-Stage Loyalty**

Oliver (1997) describes brand loyalty as a deeply held commitment to patronize or repurchase a brand constantly in the future despite the potential of situational influences and competitors’ marketing efforts to induce switching. Oliver (1997) developed a detailed framework of a four-stage loyalty model based on a sequential effect from cognitive, affective, and conative to action loyalty with different factors influencing customer loyalty.

**Cognitive loyalty.** Cognitive loyalty is the first stage in the attitudinal phase. At this stage, customers develop loyalty by comparing a preferred product to a competitor’s product based on its functional and esthetic value. (Oliver, 1997). In the smartphone context, smartphone users seek utilitarian and hedonic value because smartphone offers both utilitarian benefits (e.g., a smartphone can make users more effective, a smartphone can serve a useful purpose, a smartphone is very helpful) and hedonic benefits (e.g., a smartphone is fun, a smartphone makes the user excited). Cognitive loyalty factors in the smartphone context consist of perceived values, namely utilitarian and hedonic values.

Utilitarian value primarily refers to instrumental, functional, and practical usefulness or benefits derived from a product, whereas hedonic value refers to esthetics, experiential, or sensory-related benefits from using a product (Voss et al., 2003). According to Oliver (1997), customer loyalty at the cognitive stage is shallow and weak because it is directed to a product’s perceived performance relative to price (value) and not the brand. Thus, manufacturers prefer a higher level of loyalty among their customers, affective loyalty.

**Affective loyalty.** Affective loyalty is the second stage, a stronger sense of loyalty that is not easily abandoned than loyalty in the cognitive stage. Oliver (1999) affirms that loyalty at this point relates to the customer’s degree of affection (liking) for the brand and the overall evaluation of it (satisfaction). At the same time, customers’ satisfaction toward a smartphone brand appears to be important as they
frequently use smartphones for various purposes (M. K. Kim et al., 2016). Furthermore, Lam and Shankar (2014) stated that smartphone is a constant companion because smartphone users habitually carry their smartphones and use them for personal and important purposes. Thus, they can become emotionally attached to their smartphone brand over time. This study’s affective loyalty stage comprises customer satisfaction and emotional attachment to their smartphone brand.

Brand satisfaction is a customer’s comprehensive judgment about the perceived discrepancy between predictions and actual brand consumption experiences (Oliver, 1999). Emotional attachment is a self-implicated emotion-laden bond between customer and brand (Thomson et al., 2005). Many previous studies identified that utilitarian value and hedonic value could influence brand satisfaction in retailing (Babin et al., 2019), Airbnb (S. Lee & Kim, 2018), mobile application (Hsu & Lin, 2016), E-mass customization (Yoo & Park, 2016), and shopping (Kesari & Atulkar, 2016). Although most past studies agreed that utilitarian and hedonic values are factors that predict brand satisfaction, Yoo and Park (2016) indicated that customer value affects satisfaction may differ depending on product and service. In this sense, the authors call for future studies to investigate the relationship with a wider range of products and services. As a result, there is a need to extend and refine the association between utilitarian and hedonic value with brand satisfaction within the smartphone context. In addition, a study on utilitarian and hedonic value with brand satisfaction has not been undertaken in the smartphone brand context, particularly in Malaysia as far as the time of this research. Therefore, the relationship between utilitarian value and hedonic value with brand satisfaction among smartphone users in Malaysia will be explored in this study.

Hypothesis 1: Utilitarian value is positively related to brand satisfaction.

Hypothesis 2: Hedonic value is positively related to brand satisfaction.

In addition, prior studies have investigated the relationship between value and attachment in many settings. The study by Allard et al. (2009) and S. S. Yeh et al. (2012) indicated that perceived experiential value is a key driver of place attachment. Further, M. J. Kim et al. (2015) found that values to the customers of tourism products on group buying sites significantly affect customer attachment to the sites. So, Parsons and Yap (2013) examine the relationship between extrinsic value (symbolic benefits) and intrinsic value (functional benefits) with emotional attachment toward the brand and found that symbolic benefit and functional benefit build stronger emotional attachment toward brands. Although the value has been found to have a positive and significant relationship with emotional attachment of any sort, to the best of the researcher’s scope of the search, there is a lack of previous research specifically on the relationship between the utilitarian and hedonic value of a smartphone brand with emotional attachment to the smartphone brand. Therefore, this study will investigate the association between utilitarian and hedonic values with customers’ emotional attachment to their smartphone brand.

Hypothesis 3: Utilitarian value is positively related to emotional attachment.

Hypothesis 4: Hedonic value is positively related to emotional attachment.

Conative loyalty. Conative loyalty (behavioral intention) is the third loyalty stage, and the customer’s loyalty in this stage is deeper than the affective phase. Oliver (1999) describes conative loyalty as customers’ commitment to repurchase a specific brand based on the repeated positive effect. However, Oliver (1997) points out that customers’ commitment at this stage is only intended to repurchase the same brand, and it is not turned into action. Customers’ desire to rebuy the same brand is similar to any good intention (Oliver, 1997). According to Delgado-Ballester and Munuera-Alemán (2005), brand trust is derived from two important elements of behavior intention, such as reliance on the brand (brand reliability) and good intention to the brand (brand intentions). Brand reliability is the customers’ willingness to rely on the brand because it can perform according to its promises and satisfy the customers’ needs. The brand intention is an attribution of good intention to the brand following the customers’ interest and welfare, even during the occurrence of an unexpected problem. The definition of trust refers to a set of specific relationship intentions that deal with brand’s reliability, and intention reflects the conative side of loyalty. Hence, brand trust which concerns intention appears to be a factor of conative loyalty and influenced by affective loyalty factors (brand satisfaction and emotional attachment).

There are numerous studies on the influence of satisfaction on brand trust in smartphone setting (Azize et al., 2012; Lam & Shankar, 2014; D. Lee et al., 2015; Zhang & Liu, 2017), coffee shops (Song et al., 2019), university (Sultan & Wong, 2019), and convenience good (Miquel-romero et al., 2014). However, a study by Azize et al. (2012) investigating the effects of brand satisfaction in building brand trust in mobile phone settings suggested that further studies should cover the other areas geographically to generalize the result. To the best of the researcher’s knowledge, so far, the linkage between brand satisfaction and brand trust in smartphone setting has only been investigated in Singapore (Lam & Shankar, 2014), South Korea (D. Lee et al., 2015), and Turkey (Ercis et al., 2012). This relationship however is still uncovered in the Malaysian background. Thus, the need to investigate the extent of influence brand satisfaction will exert on the mobile phone brand trust in Malaysia become necessary.

Hypothesis 5: Brand satisfaction is positively related to brand trust.
Previous studies have also highlighted that emotional attachment predicts certain customer behavior such as trust, commitment, and brand loyalty. Dwivedi et al. (2019) found that consumers’ emotional connections could positively impact brand credibility, vital to brand trust. Previous research showed the significant impact of emotional attachment on brand trust in various research areas such as automotive (Belaid & Behi, 2011; Loureiro et al., 2012; Matzler et al., 2011), food and beverage (Jahn et al., 2012). Further, Sarkar et al. (2016) conducted a qualitative study to explore the antecedents and outcomes of hospital brand attachment in India. The researchers concluded that strong attachment relationships with a hospital build deep trust in the hospital, making individuals deeply loyal to their favored hospitals. Although previous studies investigate the association of brand trust and emotional attachment in various research settings, the findings from these studies cannot be generalized to be symmetrical in all markets because Sarkar et al. (2016) pointed out that every market has idiosyncrasies specific to that particular market. The researchers call for further investigation across several markets from various countries. Despite the call for more research into several markets, the literature indicates that existing studies investigating the effects of emotional attachment on brand trust are rare in the mobile phone market. Overall, Malaysia’s mobile phone setting is a context that the researchers often neglect. This clearly shows that studies investigating the association between emotional attachment and brand trust in mobile phone settings, particularly in Malaysia, have been relatively scanty and considerably more research is needed to address this gap. Therefore, this study investigated the association between emotional attachment and brand trust in the smartphone market. Hence, the following hypotheses are developed:

**Hypothesis 6:** Emotional attachment is positively related to brand trust.

**Action loyalty.** The fourth stage of loyalty is action loyalty, where the behavioral intention in the previous loyalty stage (conative) is transformed into actual behavior accompanied by the willingness to beat impediments that may avert the action (Oliver, 1999). According to Oliver (1999), customers at this stage are expected to tune out from the competitors’ messages to search for a preferable brand and ignore the trial of alternative brands. In this stage, marketers should not spend their resources to retain their customers because inertial rebuying theoretically influence them (Oliver, 1997). Therefore, Oliver (1997) concluded that true loyalty could be achieved at this stage, the last stage of loyalty.

Conative loyalty factors (brand trust) is important in determining action loyalty (Oliver, 1997). The significant effect of brand trust on brand loyalty is verified in the contexts of social media (Jain et al., 2018; Kamboj et al., 2018), coffee shops (Song et al., 2019), smartphone (Lam & Shankar, 2014; D. Lee et al., 2015; Matzler et al., 2008), automotive (Zehir et al., 2011), online brand communities (Laroche et al., 2012), and telecommunication (Amin et al., 2012). When customers have high trust in their smartphone brand, they will be more likely to be loyal to their smartphone brand. Even if studies (e.g., D. Lee et al., 2015; Matzler et al., 2008; Mosavi & Kenarehfard, 2013) have looked at the effects of brand trust on brand loyalty in the mobile phone area, these researches have thrown up many questions in need of further investigation. For instance, Matzler et al. (2008) concluded that it is questionable whether their study will get the same findings (positive association between brand trust and brand mobile phone brand loyalty) in different cities among different cultures.

Given that cultural differences may influence customers’ trust in loyalty, Matzler et al. (2008) advised recruiting respondents from various cultural backgrounds to enrich literature in this aspect. Moreover, a study by Mosavi and Kenarehfard (2013) obtain a significant positive association between brand trust and mobile phone brand loyalty among Samsung Galaxy users. Unfortunately, the study sample, one brand (Samsung Galaxy) users, limits the findings’ generalizability. Therefore, Mosavi and Kenarehfard (2013) pointed out that investigation into other competing brands could prove valuable data and help to support or contradict the finding. Given that brand type may affect the result, research these associations must be researched by considering various mobile phone brands. Another study by D. Lee et al. (2015) found a positive relationship between brand trust and mobile phone brand loyalty, yet the results are mainly based on a relatively younger population in their 20’s. According to C. H. Yeh et al. (2016), age affects an individual’s attitude, and behavior and age appear important while building brand loyalty among smartphone customers. Thus, the effects of brand trust on mobile phone brand loyalty may be varied with customers’ age. What is now needed is a study involving different age mobile phone users about these associations. This study addresses this insufficiency by examining the effect of brand trust on mobile phone brand loyalty from Malaysian backgrounds involving various mobile phone brands among heterogeneous age group customers. Based on the previous discussions, the relationship between brand trust and brand loyalty is positively significant. Hence, the following hypothesis is proposed:

**Hypothesis 7:** Brand trust is positively related to brand loyalty.

**Mediation Effect**

After deducing Oliver’s (1999) four-stage loyalty model, cognitive factors (utilitarian and hedonic value) are viewed as key determinants of affective factors (brand satisfaction
and emotional attachment) with a potential consequence of conative (brand trust). In addition, conative (brand trust) is the result of affective (brand satisfaction and emotional attachment), and it is an antecedent of action (brand loyalty). According to Preacher et al. (2007), the mediating variable is a bridge between a predictor and a criterion variable to explain the relationship. Therefore, it is believed that brand satisfaction and emotional attachment act as a mediator in the link between utilitarian and hedonic value and brand trust. Furthermore, brand trust mediates the relationship between brand satisfaction and emotional attachment to brand loyalty. Hence, this study hypothesized the following:

Hypothesis 8: Brand satisfaction mediates the relationship between utilitarian value and brand trust.
Hypothesis 9: Brand satisfaction mediates the relationship between hedonic value and brand trust.
Hypothesis 10: Emotional attachment mediates the relationship between utilitarian value and brand trust.
Hypothesis 11: Emotional attachment mediates the relationship between hedonic value and brand trust.
Hypothesis 12: Brand trust mediates the relationship between brand satisfaction and brand loyalty.
Hypothesis 13: Brand trust mediates the relationship between emotional attachment and brand loyalty.

**Moderating Effect of Brand Reputation**

Brand reputation is the aggregate perception of the salient characteristics of a brand (Morgan-Thomas & Veloutsou, 2013). Furthermore, brand reputation reduces the risk associated with purchasing decisions (Mahasuweerachai & Qu, 2015). Da Silva and Syed Alwi (2008) discovered that brand reputation is a sign of success because well-known brands are considered successful. If the reputation is perceived as well known and successful by customers, it can increase their loyalty toward a brand with a good reputation. Bergami and Bagozzi (2000) describe that identification is obtained when customers associate themselves with highly reputed brands. Hence, customers will stay connected with high reputed brands to enhance their self-esteem. Moreover, Veloutsou and Moutinho (2009) stated that a reputable brand has a solid sign of product quality, which could act as an inhibitor to switching.

In this study, brand reputation can play an important role as a moderator in the relationship between brand trust (conative) and brand loyalty (action). A well-reputed brand can reduce the perceived risk associated with performance vagueness and information asymmetry, leading to purchase and repurchase behavior (Pan et al., 2012). Hence, it is believed that the reputation of a smartphone brand can stimulate customers’ trust and enhance its impact on customers’ brand loyalty. This study proposes the following hypothesis.

Hypothesis 14 (H14): The positive relationship between brand trust and brand loyalty will be stronger when brand reputation is high.

All associations hypothesized and examined in this study are presented in Figure 1 below.

**Research Methodology**

**Measures**

This study used a self-administered questionnaire survey to examine the research model and hypotheses. Table 1 shows the number of measurement items and their sources. The measurement items for brand satisfaction, emotional attachment, brand trust, and brand loyalty have a seven-point Likert scale (1 = strongly disagree and 7 = strongly agree).

**Sampling Design**

We administered the questionnaires to people residing in Klang Valley, the largest metropolitan in Malaysia that recorded the highest smartphone penetration rate (Malaysian Communications and Multimedia Commission, 2018). Mall-intercept procedure (i.e., a non-probabilistic sampling) was used for collecting data. The population of consumers in Klang Valley is approximately six million. According to Krejcie and Morgan (1970), the minimum sample size for the population of one million is 384. However, Bernard (2011) pointed out that the response rate for the mall intercept survey is approximately 80%, indicating that 20% is a nonresponse rate. Therefore, in this study, the sample size of 384 was increased by 20% to minimize the nonresponse rate. As a result, the final sample size is 460.

There are 10 districts in Klang Valley, and this study was conducted at one major shopping mall in each district. A total of 460 questionnaires was bifurcated in proportion to each district’s total population, as indicated in Table 2.

Then this study was conducted over a variety of days (weekdays and weekends) and also at a variety of times of day and evening to ensure greater diversity in respondents and for time sampling as suggested by Lavrakas (2008) and Sudman (1980). In this study, the questionnaires were distributed on random weekdays and weekends and in the first half (10 am–3 pm) as well as the second half (3 pm–8 pm) as suggested by Sudman (1980). It should be noted that most shopping malls have more than two entrances. However, it was not possible to sample all gates. Therefore, this study considered only one entrance with high traffic flow at each mall.

Finally, a systematic sample of respondents at the malls was selected rather than allowing the researcher to approach respondents at the researcher’s convenience, as Lavrakas (2008) suggested. In this study, every 10th entering customer
Figure 1. Research framework.

Table 1. Measurement Items.

| Constructs                  | Number of items | Sources                                      |
|-----------------------------|-----------------|----------------------------------------------|
| Utilitarian value           | 5               | Voss et al. (2003)                           |
| Hedonic value               | 5               | Voss et al. (2003)                           |
| Brand satisfaction          | 9               | Sahin et al. (2011)                          |
| Emotional attachment        | 5               | Lam and Shankar (2014)                       |
| Brand trust                 | 8               | Delgado-Ballester (2004)                     |
| Brand reputation            | 4               | Morgan-Thomas and Veloutsou (2013)           |
| Brand loyalty               | 5               | Karjaluoto et al. (2012)                     |

Table 2. Population in Klang Valley.

| No | Area        | Shopping Mall         | Population ('000) | Percentage (%) | Sample Size | Sample size increased by 20% | Not returned | Not Valid | Valid |
|----|-------------|-----------------------|-------------------|----------------|-------------|------------------------------|--------------|-----------|-------|
| 1  | Kuala       | Nu Sentral            | 1,723             | 30.0           | 114         | 137                          | 32           | 12        | 93    |
| 2  | Putrajaya   | Alamanda Putrajaya    | 89                | 1.50           | 6           | 7                            | 0            | 0         | 7     |
| 3  | Shah Alam   | Setia City Mall       | 528               | 9.10           | 35          | 42                           | 4            | 6         | 32    |
| 4  | Petaling Jaya| Paradigm Mall       | 577               | 10.0           | 38          | 46                           | 15           | 9         | 22    |
| 5  | Subang Jaya | Subang Parade         | 583               | 10.10          | 39          | 47                           | 13           | 3         | 31    |
| 6  | Klang       | Klang Parade          | 747               | 12.90          | 50          | 60                           | 14           | 4         | 42    |
| 7  | Selayang    | Selayang Mall         | 559               | 9.70           | 37          | 43                           | 7            | 0         | 36    |
| 8  | Ampang Jaya | Spectrum Shopping Mall| 142              | 2.40           | 9           | 11                           | 0            | 0         | 11    |
| 9  | Kajang      | Metro Point Complex   | 743               | 12.90          | 50          | 60                           | 11           | 2         | 47    |
| 10 | Sepang      | Mitsui Outlet Park    | 85                | 1.50           | 6           | 7                            | 0            | 1         | 6     |
|    | Total       |                       | 5,776             | 100            | 384         | 460                          | 96           | 37        | 327   |

Note. The population is based on Malaysia’s 2010 Population and Housing Census.

was approached to complete the questionnaire as suggested by Mabkhot et al. (2016). If the 10th customer refused to answer the questionnaire, the questionnaire was given to the next 10th customer as a substitute.

After eliminating those with unanswered items, 327 questionnaires were coded for data analysis, yielding a net response rate of 71%. The respondents’ demographic profile is presented in Table 3.
Table 3. Demographic Profile.

| Item descriptions | Frequency | Percentage (%) |
|-------------------|-----------|----------------|
| **Brand**         |           |                |
| Apple             | 55        | 16.8           |
| Samsung           | 115       | 35.2           |
| Nokia             | 20        | 6.1            |
| HTC               | 9         | 2.8            |
| Blackberry        | 7         | 2.1            |
| Sony              | 17        | 5.2            |
| Motorola          | 2         | .6             |
| LG                | 4         | 1.2            |
| Lenovo            | 33        | 10.1           |
| Asus              | 14        | 4.3            |
| Huawei            | 6         | 1.8            |
| Oppo              | 14        | 4.3            |
| Acer              | 4         | 1.2            |
| Xiaomi            | 20        | 6.1            |
| Others            | 7         | 2.1            |
| **Total**         | 327       | 100.0          |
| **Occupation**    |           |                |
| Student           | 13        | 4.0            |
| Employee          | 284       | 86.9           |
| Self employed     | 18        | 5.5            |
| Unemployed        | 5         | 1.5            |
| Housewife         | 7         | 2.1            |
| **Total**         | 327       | 100.0          |
| **Income**        |           |                |
| Less than 1,000   | 22        | 6.7            |
| 1,001–3,000       | 107       | 32.7           |
| 3,001–5,000       | 132       | 40.4           |
| 5,001–7,000       | 36        | 11.0           |
| 7,001–9,000       | 12        | 3.7            |
| 9,001–1,1000      | 2         | .6             |
| More than 1,1000  | 2         | .6             |
| No income         | 14        | 4.3            |
| **Total**         | 327       | 100.0          |
| **Gender**        |           |                |
| Male              | 133       | 40.7           |
| Female            | 194       | 59.3           |
| **Total**         | 327       | 100.0          |
| **Ethnicity**     |           |                |
| Malay             | 146       | 44.6           |
| Chinese           | 72        | 22.0           |
| Indian            | 106       | 32.4           |
| Others            | 3         | .9             |
| **Total**         | 327       | 100.0          |
| **Age**           |           |                |
| <20               | 6         | 1.8            |
| 21–30             | 149       | 45.6           |
| 31–40             | 110       | 33.6           |
| 41–50             | 40        | 12.2           |
| 51–60             | 19        | 5.8            |
| >60               | 3         | .9             |
| **Total**         | 327       | 100.0          |

(continued)

Table 3. (continued)

| Item descriptions | Frequency | Percentage (%) |
|-------------------|-----------|----------------|
| **Marital status**|           |                |
| Single            | 144       | 44.0           |
| Married           | 183       | 56.0           |
| **Total**         | 327       | 100.0          |
| **Education**     |           |                |
| Primary           | 2         | .6             |
| Secondary         | 48        | 14.7           |
| College           | 100       | 30.6           |
| Degree            | 148       | 45.3           |
| Post degree       | 29        | 8.9            |
| **Total**         | 327       | 100.0          |

Common Method Variance (CMV)

In this study, Harman’s one-factor test was applied to determine the effect of CMV as a diagnostic technique (Podsakoff et al., 2003). The single factor accounted for 41.81%, which is below the recommended threshold of 50% in Harman’s one-factor test, thus approving the little influence of CMV on this study. Also, the highest correlation between all variables is .746 (between utilitarian and hedonic values), below the recommended cut-off value of .9 by Bagozzi et al. (1991). This indicates the little influence of CMV.

Furthermore, this study evaluated the common method variance by following Kock’s (2015) recommendation to test the full collinearity of all the constructs. All the study constructs regressed on the common variable, and the variance inflation factor (VIF) value less than 3.3 indicates the absence of bias from the single-source data. Full collinearity analysis shows no issue of single-source bias (See Table 4).

Multivariate Normality

The calculated Mardia’s multivariate Skewness ($\beta=38.91$, $p<.01$) and Kurtosis ($\beta=151.45$, $p<.01$) coefficients and $p$-values displayed that the study data is not normal as the $p$-values were below .05.

Data Analysis Method

The main aim of this study is to investigate the sequential linkage of variables and moderating role of brand reputation, indicating that the essential concentration of this study is on seeing every path coefficient and variance explained. Because of the non-normality issues, this study selected the PLS path modeling approach (as recommended by Hair et al., 2014; Henseler et al., 2009).
**Summary of Findings**

**Measurement Model**

Table 4 presents the result of the measurement model. The value of Cronbach’s α and composite reliability (CR) ranged from .901 to .959, indicating that all the seven constructs had strong internal consistency (Henseler et al., 2009). The factor loadings were all above 0.708 (Hair et al., 2016) except for one item of brand satisfaction (BS6) has an outer loading of 0.648. BS6 was not eliminated from the scale because the brand satisfaction construct has adequate composite reliability and AVE value. As seen in Table 5, AVE for all the constructs is above the threshold value of 0.5, guaranteeing convergent validity.

**Structural Model**

In this study, the variance indicator factor (VIF) values were below the threshold value of 3.3 (Diamantopoulos & Siguaw, 2006). Therefore, there was no multicollinearity between the constructs. It is possible to test the structural model. A bootstrapping analysis (resampling = 5,000) was performed to assess the statistical significance of the hypothesis. The structural model is shown in Figure 2, and the statistical results are shown in Table 5. The results revealed that all the hypotheses were supported, except H1 and H3. Hedonic value has a positive relationship with brand satisfaction and emotional attachment with $β = .365$, $p < .001$ and $β = .295$, $p < .001$. For affective loyalty factors, brand satisfaction, and emotional attachment have a positive relationship with brand trust with $β = .559$, $p < .001$ and $β = .361$, $p < .001$. In addition, the relationship between brand trust and brand loyalty was supported by $β = .420$, and it was significant at $p < .001$. Additionally, 0 did not straddle between the confidence intervals bias results of the lower level (LL) and upper level (UL), which indicated significant relationships. Thus, H2, H4, H5, H6, and H7 were supported.

The coefficient of determinants ($R^2$) is an important criterion to determine the predictive ability of the theoretical structural model (Hair et al., 2017). According to Hair et al. (2017), it is difficult to provide the threshold value for $R^2$ values as it is dependent on the model complexity and research discipline. However, there are several numbers of rules of thumb. According to Cohen (1988), $R^2$ values of .26 is substantial, .13 is moderate, and .02 is weak. Table 6 show that the model explains 22% variance in brand satisfaction (moderate), 5.9% variance in emotional attachment (weak), 63.2% variance in brand trust (substantial), and about 51.7% variance in brand loyalty (substantial). The model is considered substantial and it has a good capacity in predicting the formation of smartphone brand loyalty because it has acceptable $R^2$ values with fewer (one or two) exogenous variables.

**Moderation Effect**

We hypothesized that brand reputation moderates the linkage between brand trust and loyalty. Particularly, the relationship between brand trust and brand loyalty is stronger (i.e., more positive) for smartphones with a high brand reputation. The result shows that the interaction term was representing $BT \times BR$—brand reputation was statistically significant ($β = .072$, $t = 1.718$, $p < .05$). Hence, hypothesis 14 was fully supported.

**Mediation Effect**

This study investigated the indirect effect of study variables. Table 5 presents that hedonic value indirectly and significantly affects brand trust through brand satisfaction ($β = .268$, $t = 3.891$) and emotional attachment ($β = .183$, $t = 3.075$). Further, brand satisfaction ($β = .236$, $t = 7.011$) and emotional attachment ($β = .152$, $t = 4.239$) indirectly and significantly influence brand loyalty through brand trust. Thus, it can be concluded that the mediation effect is statistically significant (H9, H11, H12, and H13 are supported). However, the utilitarian value does not significantly and indirectly influence brand trust through brand satisfaction and emotional attachment.

**Discussion**

As posited, a hedonic value significantly impacts brand satisfaction and emotional attachment. The more hedonic value a customer receives from using a particular brand smartphone, the more he or she will become satisfied and emotionally attached to that brand. Nowadays, smartphones are designed with hedonic features such as foldable, Dolby Vision HDR video recording, under-display selfie cameras, light detection and ranging camera sensor, 108 MP camera sensor, and built-in mobile security. Smartphones with these breakthrough hedonic features have become a hit among users, allowing them to enjoy a tech-savvy lifestyle. The effectiveness of hedonic elements seems to justify recent entertainment, fun, and enjoyment trends. Hence, the hedonic value such as fun, excitement, thrill, delightfulness, and enjoyment incarnated by the hedonic features of the
smartphone can trigger customer’s satisfaction and emotional attachment toward a particular brand smartphone. Therefore, it is reasonable to conclude that hedonic value is a basis for Malaysian smartphone users’ satisfaction and emotional attachment to a smartphone brand. This finding corroborates with results from other scholars who validated the significant role of hedonic value on brand satisfaction and emotional attachment (e.g., Babin et al., 2005; Hsu & Lin, 2016; Kesari & Atulkar, 2016; Lo & Qu, 2015; Yoo & Park, 2016).

Contrary to the view that cognitive factors influence affective factors, this study found that utilitarian value has an insignificant relationship with brand satisfaction and emotional attachment among smartphone users in Malaysia. According to the law of diminishing marginal utility, the practical benefit gained from each additional product unit decreases when a customer increases the consumption. There is a certain utility threshold, and the customer will no longer receive the same additional utility value from the consumption when the threshold is crossed. According to
Lin et al. (2015), the average lifespan for a smartphone is about 6 to 9 months because customers are likely to replace their phones regularly. Hence, the utilitarian value perceived by customers from using a smartphone decreases when they purchase their smartphone regularly and does not significantly impact customers’ satisfaction and emotional attachment toward their smartphone brand. In addition, an overwhelming trend of the new millennium emphasizes the hedonic qualities of smartphones beyond their functional features. The experiential and sensory outcomes obtained through the hedonic features are the central themes among smartphone users compared to utilitarian outcomes such as practicality, functionality, and usefulness. Therefore, this could be another possible reason for the insignificant effect of utilitarian value on customers’ satisfaction and emotional attachment toward their smartphone brand.

Brand satisfaction and emotional attachment significantly influence brand trust in developing brand loyalty. It is believed that Malaysian smartphone users are more likely to trust a smartphone brand when they are satisfied with the brand. Brand satisfaction enhances customers’ trust by contributing to brand confidence in fulfilling commercial promises and protecting customers’ welfare and interest. Therefore, the findings of this study suggest that when smartphone users are satisfied with a particular brand of smartphone, they are confident that the brand will deliver its promises and mitigate perceived risk associated with the smartphone brand. It can be concluded that the degree of customers’ trust toward their smartphone brand is a consequence of the smartphone brand owner’s capacity to satisfy the customers’ needs. Emotional attachment is also revealed to impact customers’ trust in the smartphone brand. The state of emotional attachment influences how people evaluate the trustworthiness of others, how inclined they are to cooperate with others, and how motivated they are to display trust in others (Sarkar et al., 2016). Hence, it can be concluded in this study that the feeling of being emotionally attached toward a smartphone brand could reinforce the feeling of security that the brand will fulfil its promises, and it is interested in the customer’s welfare.

Brand trust (conative factor) has a significant role in generating brand loyalty (action). This study found that smartphone users are more likely to stay loyal if they trust smartphone brand owners. Specifically, the role of trust may vary depending on the level of uncertainty. According to Parasuraman et al. (2001), customers often perceive some degree of uncertainty in the performance of technological products. A smartphone is a technological device used to store important files, organize users’ tasks, maintain a schedule, and keep the users up to date about upcoming events.

![Figure 2. Result of structural model.](image-url)
A smartphone is also used to link to the internet for web access and email or remotely connect to a computer network to access relevant data. It also enables users to quickly access their bank accounts and make an immediate online payment. Hence, a smartphone must work effectively and efficiently to store important information and transmit the right information. Thus, uncertainty in smartphone performance can be high. According to Limbu et al. (2012), trust in a brand allows customers to overcome the perception of risk and reduce the uncertainty that strongly affects their behavior. Therefore, the impact of brand trust on loyalty becomes exclusively relevant and important in the smartphone context. These findings align with a few previous studies (e.g., Lam & Shankar, 2014; D. Lee et al., 2015; Matzler et al., 2008).

In this study, brand reputation moderates the relationship between brand trust and brand loyalty. There is a strong relationship between brand trust and brand loyalty for a smartphone with a high brand reputation compared to a smartphone with a low reputation. According to Suh and Houston (2010), a good reputation is perceived as a signal of reliability. A brand’s reputation is considered a mechanism of assuring a brand’s trustworthiness (Pan et al., 2012). In this study, the reputation of a smartphone brand stimulated and sustained customers’ trust, which further strengthened the impact of customers’ brand trust on brand loyalty.

### Conclusion

From the theoretical perspective, this study developed Oliver’s four-stage loyalty model by integrating the major components of each loyalty stage and providing in-depth knowledge on the sequential process of loyalty development which prior researchers largely neglected. Additionally, this study extends Oliver’s loyalty model by incorporating brand reputation as the moderator in the relationship between brand trust (conative) and brand loyalty (action). Previous studies on brand reputation had investigated its role as an independent variable rather than a moderator variable (Gul, 2014; Kuenzel & Halliday, 2010; Mahasuweerachai & Qu, 2015). Perugini and Bagozzi (2001) stated that broadening theory in a specific context enhances the researcher’s understanding of the theoretical mechanism of the model and increases the prediction power of the outcome variable in the specific context. It is believed that this study was the first attempt to develop Oliver’s (1997) four-stage loyalty model in the smartphone industry. Thus, this study enhanced the theoretical foundation of smartphone brand loyalty formation, which is useful for future researchers in this scope.

For the practical aspect, this study can be used as guidelines for brand loyalty strategy by smartphone brand owners. Firstly, the current study informs smartphone brand owners that customers’ loyalty toward a smartphone brand has a

### Table 6. Results of Structural Model.

| Hypo | β   | CI—Min | CI—Max | t     | p-Value | R²   | f²    | Q²   | Decision |
|------|-----|--------|--------|-------|---------|------|-------|------|----------|
| Factors effecting brand satisfaction | | | | | | | | | |
| H1 UV → BS | .129 | −0.016 | 0.298 | 1.366 | .086 | .220 | 0.009 | Reject |
| H2 HV → BS | .365 | 0.212 | 0.520 | 3.927 | .000 | 0.075 | 0.144 | Accept |
| Factors effecting emotional attachment | | | | | | | | | |
| H3 UV → EA | −.077 | −0.243 | 0.081 | 0.796 | .213 | .059 | 0.003 | Reject |
| H4 HV → EA | .295 | 0.142 | 0.450 | 3.243 | .001 | 0.041 | 0.045 | Accept |
| Factors affecting brand trust | | | | | | | | | |
| H5 BS → BT | .559 | 0.453 | 0.650 | 9.374 | .000 | .632 | 0.663 | Accept |
| H6 EA → BT | .361 | 0.274 | 0.449 | 6.746 | .000 | 0.276 | 0.451 | Accept |
| Factors affecting brand loyalty | | | | | | | | | |
| H7 BT → BL | .421 | 0.334 | 0.523 | 7.562 | .000 | .518 | 0.250 | 0.389 | Accept |
| Moderating effect of brand reputation | | | | | | | | | |
| H14 BT → BL | .072 | 0.001 | 0.138 | 1.718 | .043 | 0.017 | | Accept |
| Mediating effect of brand satisfaction | | | | | | | | | |
| H8 UV → BS → BT | .092 | −0.021 | 0.214 | 1.346 | .089 | | | | Reject |
| H9 HV → BS → BT | .268 | 0.157 | 0.384 | 3.891 | .000 | | | | Accept |
| Mediating effect of emotional attachment | | | | | | | | | |
| H10 UV → EA → BT | −.046 | −0.112 | 0.056 | 0.872 | .192 | | | | Reject |
| H11 HV → EA → BT | .183 | 0.070 | 0.273 | 3.075 | .001 | | | | Accept |
| Mediating effect of brand trust | | | | | | | | | |
| H12 BS → BT → BL | .236 | 0.184 | 0.292 | 7.011 | .000 | | | | Accept |
| H13 EA → BT → BL | .152 | 0.100 | 0.216 | 4.239 | .000 | | | | Accept |

Note: UV = utilitarian value; HV = hedonic value; BS = brand satisfaction; EA = emotional attachment; BT = brand trust; BR = brand reputation; BL = brand loyalty.
four-stage process. In the first stage, the high level of hedonic value raises customers’ brand satisfaction and emotional attachment during this process. Thus smartphone brand owners should focus on the hedonic attributes, such as touch sapphire screens, triple sensor cameras, powerful operating systems, 3D object screening, holographic screen projections, artificial intelligence (AI) solutions, and more health/fitness/habit tracking add-ons.

In the second stage, the smartphone users are satisfied and emotionally attached to their smartphone brand. However, smartphone brand owners should further enhance brand satisfaction and emotional attachment, leading to brand trust. Rewarding customers by providing gifts, such as a phone cover, screen protector, fast charge battery pack, memory card, wireless headphones, will satisfy them more. Further, providing special offers and promotions to customers can foster deeper emotional attachment and make them feel the brand is made for them. When customers are highly satisfied and emotionally attached to their smartphone brands, they will trust them.

In the third stage, smartphone users trust their smartphone brands, but the trust should be strengthened to make them loyal to the brand. To acquire customers’ trust, smartphone brand owners must spend in complaint handling, merchandizing, and communication methods that aid in telling customers about the brands’ responsive attitude and behavior. Furthermore, smartphone manufacturers must improve their customer service by emphasizing consumer focus both before and after the sale in order to resolve any issues with the device. Customers might also be offered an extended warranty by smartphone manufacturers to compensate them for any difficulties with their phones. When customers trust their smartphone brand, they will stay loyal and not switch to alternative brands.

The results of this study’s empirical studies also show that a smartphone brand’s reputation can increase consumer loyalty. The trust that customers have in their smartphone brands is priceless. The strength of the influence of customers’ brand trust on brand loyalty is, however, determined by the reputation of a smartphone brand. As a result, smartphone manufacturers must improve their brand’s reputation in order to increase customer loyalty. Smartphone brand owners can strengthen their reputations through marketing communication channels. For instance, smartphone brand owners can update a list of accolades and awards received from professional associations on their website or social media site. This approach will make the brand more reputable, easily recognizable, and well-known. Also, the brand will appear to be one of the leading brands in the market.

Overall, this study educates smartphone brand owners that customer loyalty toward a brand does not simply happen but is a four-stage process. This study has recommended the important strategies they can implement to enhance customer loyalty at each stage, which will help them prioritize and effectively allocate marketing resources. From this study, smartphone brand owners will learn to implement effective customer retention strategies.

Limitations and Future Research

The current study offers valuable insights by expanding the knowledge of the brand loyalty formation process. However, it has one limitation that future research could address. The current study is a cross-sectional study that does not allow causal inferences. Therefore, it is recommended that future research could use a longitudinal design to test the theoretical constructs at different points of time to strengthen the results.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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