

Strategic Effects of Product Innovation, Service Quality, and Relationship Quality on Brand Equity

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Abstract

This paper examines the effects of product innovation and service quality on brand equity mediated by relationship quality. To date, the patterns in past research show that there is less attention been paid to examine the importance of product innovation and service quality in affecting brand equity. Thus, in order to explore our knowledge in this area, this study was conducted among car users in Northern region of Malaysia. The data were analyzed using SPSS and Structural Equation Modeling (SEM). The findings indicated that product innovation and service quality have significant positive effects on relationship quality and brand equity. Moreover, the findings revealed that relationship quality mediates the relationship between product innovation and brand equity. It also shows that relationship quality mediates the relationship between service quality and brand equity. Based on these results, several implications and future research suggestions are discussed in this paper in order to explore our knowledge towards the importance of product innovation and service quality in affecting relationship quality and brand equity.

Keywords: brand equity, product innovation, relationship quality, service quality

1. Introduction

Brand equity is a key concept of brand management and it has received significant attention from several scholars in past research (Boo, Busser, & Baloglu, 2009). Due to the fact that business markets are highly characterized by intense market competitiveness, fostering brand equity in order to enhance the level of organizational performance and growth has become a strategic priority for various brands (Tsai, 2011). The key advantage of building strong brand equity is highly associated with long-term organizational success. Moreover, obtaining strong brand equity enables firms to generate higher profits and minimize marketing expenses (Keller, 2003; Myers, 2003). Mainly, brands which successfully manage to establish customer loyalty and favorable image among customers worldwide, would as a result gain high profit margins, decrease competitive threats, and influence customers' reactions towards the marketing programs (Gill & Dawra, 2010). From customers' point of view, this intangible asset in most cases is considered to be the main factor in choosing a particular brand over another.

Previous literature shows that there are several factors that influence brand equity; however, this study focuses on product innovation and service quality in automotive segment. However, although service quality is a well-researched topic, but there are limited studies that tested its effect on brand equity (He & Li, 2011). Furthermore, most of the previous studies on service quality have mainly focused on determining its consequences and measurements in service contexts (He & Li, 2011; Nawaz & Usman, 2011; Kayaman & Arasli, 2007). It appears that, there exists a research gap in past literature on the empirical evidence of service quality as an antecedent to brand equity in manufacturing contexts (He & Li, 2011), particularly in Malaysia. Moreover, Stock (2011) considered product innovation as another important strategic factor that has the power to affect customer's perception and purchase decision of a brand, but surprisingly very limited empirical research was conducted to test its impact on brand equity in Malaysian automotive context. Evidently, the majority of past studies examined the effect of such variables on brand equity in western cultures and very few studies were conducted in Asian countries, such as Malaysia. Therefore, this study is planned to establish empirical evidence on the effect of product innovation and service quality on brand equity.

Many scholars regard brand equity as a key strategic issue for organizations and for this reason it should be

managed strategically (Wood, 2000). While product innovation and service quality (Lages, Silva, & Styles, 2009) have been established as significant strategic factors in determining an organization's competitive advantage and success, there are very limited researches that examined the effect of such factors on brand equity and used relationship quality as a mediating variable between them in a single research framework. Additionally, previous studies examined these factors at the operational level, thus, this study investigates these factors from a strategic perspective to fill existing research gaps on this topic.

2. Literature Review

2.1 Brand Equity

Past literature reported that brand equity can be measured using a set of dimensions. Aaker (1991) considered brand equity as a multidimensional construct which is comprised of brand awareness, brand loyalty, brand association, perceived quality, and other proprietary assets. Similarly, Keller (1993) viewed brand equity as a concept that can be measured in terms of brand image and brand association. Later on, Aaker (1996) introduced brand leadership as an important component of brand equity. Yoo, Donthu, and Lee (2000) further declared that brand equity can be created by strengthening those dimensions. Certain scholars (King & Grace, 2010; Pappasolomou & Vrontis, 2006) thought about brand equity in terms of several dimensions such as brand associations, brand loyalty, brand awareness, perception of quality, and credibility. However, this study focuses on unique combination of four dimensions to measure brand equity. The dimensions include brand awareness, brand loyalty, brand image, and brand leadership. The following section describes each of these dimensions.

Brand awareness was expressed by Aaker (1991) as the ability of customers to recognize or recall a brand among others from similar category (Aaker, 1991). Keller (2003) also demonstrated that brand awareness consists of brand recognition and brand recall. Another important dimension of brand equity is brand loyalty which refers to "the tendency to be loyal to a focal brand, which is demonstrated by the intention to buy the brand as a primary choice" (Yoo & Donthu, 2001, p. 3). Loyal customers indeed reveal better responses to the brand over non-loyal ones (Chen, Su, & Lin, 2011). As a result, brand loyalty represents an inspiring approach for a brand which leads to customer repurchase intention in due course (Alamgir, Nasir, Shamsuddoha, & Nedelea, 2010).

Lassar, Mittal, and Sharma (1995) believed that brand equity can be positioned in the minds of customers via the confidence and incredible images associated with the brand. Particularly, brand image refers to "the perception of consumers toward a brand as reflected by brand associations held in consumer memory" (Keller, 1993, p. 3). Therefore, the image related to a brand may have an effect on perceived quality, price, or brand value (Andrews & Kim, 2007). For this reason, enhancing brand equity in international markets necessitates organizations to develop their brand images (Park, Jaworski, & MacInnis, 1986). Moreover, brand leadership is another important element of brand equity which has a significant role in its creation process (Allan 2011; Morgan, Pritchard, & Pride, 2011). Gehlhar, Regmi, Stefanou, and Zoumas (2005) indicated that brand leadership can be maintained when an organization acquires the ability to distinguish its product and services from those of competitors. They further declared that maintaining such a leadership position requires them to put prime focus on product innovation activities with latest technological features.

The discussion made above shows the importance of brand equity assets such as brand loyalty, brand awareness, brand image, and brand leadership. All of these dimensions reinforce the value and credibility of brands and as a result give confidence to consumers to develop a preference for strong brands at the time of forming purchase decisions. Owing to the importance of these dimensions, looking for significant factors that affect brand equity is essential. Keeping this in perspective, this study aims to examine the effect of two strategic factors; product innovation and service quality on brand equity with relationship quality as a mediator.

2.2 Relationship Quality

Building strong relationships with customers are very important for firms which intend to build and sustain their competitive advantages and this would ultimately result in brand success and enhanced performance (Peppers & Rogers, 1995). Relationship quality was previously defined as the degree to which customers feel that their brand relationships meet their expectations and desires while evaluating overall relationship outcomes (Jarvelin & Lehtinen, 1996). Relationship quality stems from customers' assessment of the strength (or quality) of their actual relationships with a brand or an organization (Sublaban & Aranha, 2008). Morgan and Hunt (1994) described relationship quality as all activities that are designed to create, develop, and maintain profitable relational exchanges. Similarly, Ford and Hakanson (2006) considered good quality of relationships with customers as significant assets for brands.

Past literature indicated that a number of elements make up the concept of relationship quality. For example,

certain researchers (Baker, Simpson, & Siguaw, 1999; Dorsch et al., 1998; Lewin & Johnston, 1997) considered commitment and trust as the main elements of relationship quality. Crosby et al. (1990) thought about satisfaction and trust as the most important dimensions that form relationship quality. On the other hand, Dorsch et al. (1998) declared that relationship quality is composed of trust, commitment, and satisfaction. Similarly, Hibbard et al. (2001) considered trust and commitment as key elements to measure relationship quality. However, this study focuses on brand trust, brand commitment, and brand satisfaction as the key behavioural elements for measuring relationship quality. This is because such elements are the most cited dimensions for relationship quality (Hilman, Ghani, & Hanaysha, 2013; Yang, Wu, & Wang, 2010).

Theoretically, social exchange theory (SET) is one of the well-established theories of customer relationships and was initially developed by Thibaut and Kelley (1959). Social exchange theory reveals that “relational exchange participants can be expected to derive complex, personal, non-economic satisfactions and engage in social exchange” (Dwyer, Schurr, & Oh, 1987, p. 12). It represents an important model which explains human behaviour in order to understand how people build relationships and maintain them. Nyadzayo, Matanda, and Ewing (2011) regarded social exchange theory as a strong theoretical grounding for explaining the influence of relationship quality on building brand equity. As argued by Son, Narasimhan, and Riggins (2005), social exchange theory explains the theoretical argument for the relationship between relationship quality and brand equity according to the main exchanges, value, and utility. Hence, this study builds upon the literature by testing the impact of relationship quality on brand equity, and therefore, the following hypothesis is proposed:

H1: Relationship quality has positive effect on overall brand equity.

2.3 Product Innovation

Product innovation is an important organizational capability to create and maintain competitive advantage (Wang & Ahmed, 2007). Innovation capability comes from the ability of an organization to create new products and aligning strategic innovative orientation with innovative behaviors and processes (Wang & Ahmed 2004). Mainly, innovative capability is revealed according to the innovation of new and creative products besides penetration into various markets with attractive offering in order to improve company's success. Petroni (1998); Lazonick and Prencipe (2005) suggested that in several industries, innovative capability is the key aspect for their growth and survival in the silence of intense rivalry. The higher innovative capability an organization possesses, the higher dynamic capabilities it acquires.

Furthermore, product innovation is highly considered to be a driving force for organizational growth and developing brand equity besides guiding business practitioners in branding activities (Kaplan, 2009). The majority of past studies on innovation have mainly focused on product innovation, because it has been previously established as the most significant factor for strengthening the success of a brand (Saridan et al., 2008). When a firm focuses on initiating innovative products, it can as a result improve the image of “innovativeness” through marketing communication means to increase brand awareness, which ultimately could have a significant impact on the perception of customers toward the innovativeness and added values of a particular product design (Kaplan, 2009). Thus, product innovation is vital for building brand equity because in most cases it extends and reinforces the meaning of the brand (Keller, 2003; Beverland, 2005).

On the whole, product innovation activities play important roles in enhancing brand equity and facilitating brand building (Kaplan, 2009). Particularly, organizations which involve in innovation activity could provoke superior performance and growth as compared to those which are not innovative, and usually they have better brand awareness and attract larger number of customers (Kingsland, 2007). Without any doubt, consumers mainly evaluate brand innovativeness according to product design and quality as they could deliver strategic messages on the performance of the brand through such elements (Karjalainen, 2004), besides providing information about the product, its attributes, origin, design and the producer (Monö, 1997). Such information in turn would result in increased brand awareness and favourable brand image (Schmitt & Simonson, 1997), and this ensures the value of product design as the key distinguishing factor.

2.4 Service Quality

Service quality has been considered as an essential strategic factor for sustaining firm's competitive advantage and growth (Siddiqi, 2011). Various research themes have focused extensively on service quality role in driving business success. They indicated that it is important for firms seeking to differentiate their offerings from other rivals to focus on service quality as it plays a significant role in the customers' overall evaluation of products and services (Angelova & Zekiri, 2011). The main goal of investment in service quality is to develop the perceptions of customers towards the service quality and improve their experiences with that service (He & Li, 2011). Rauyruen and Miller (2007) demonstrated that providing high quality of services can influence customers'

purchase decisions and direct firms to achieve their goals (Rauyruen & Miller, 2007).

Gronroos (1984, p. 37) defined service quality as “the result of a comparison between the received service and the expected service”. In some earlier studies, service quality has been defined as the degree to which a service provided by a brand meets or is beyond customer’s expectations (Dotchin & Oakland, 1994). Bitner and Hubbert (1994) on the other hand defined service quality as the overall impression formed by customers on the actual utility and superiority of organizational services. From these definitions, it can be concluded that service quality refers to the degree to which the services provided by a brand meet or exceed customers’ expectations. The ability of a brand to deliver quality of services to its customers, will as a result provide it with better opportunities to maintain its customers and create valuable relationships with them (Hanaysha, Hilman, & Warokka, 2011). This in fact becomes the basis of obtaining sustainable competitive advantage.

In general, providing service quality to business customers is regarded as a fundamental strategy for long-term success in highly competitive markets. Particularly, a firm’s investment in providing customers with high quality of services may enhance their perceptions and establish favorable associations in the minds of customers (Dean, 2002; Bell, Auh, & Smalley, 2005). Certainly, organizations that seek to gain competitive advantage should pay considerable attention towards investing in offering superior quality of services to customer, in order to improve and sustain their position positively in the long run (Abdullah, 2009; Taleghani et al., 2011). Therefore, a brand which focuses on providing its’ customers with high quality of services, would as result gain a greater value by giving them a reason to purchase its products; this is by differentiating it from other competitors through such added value (Kayaman & Arasli, 2007).

2.5 Linking Product Innovation to Relationship Quality and Brand Equity

Based on the review of past literature, it shows that product innovation is a significant strategic factor that affects both brand equity and market share (Chu & Keh, 2006; Rubio & Yague, 2009). According to resource-based theory, superior organizational performance in most cases depends on how well an organization improves and utilizes its capabilities and unique resources (Barney, 2014). An eminent means by which organizations can achieve higher performance comes from their abilities to develop innovative products with superior quality (Zott & Amit 2008). Through such capabilities, organizations would have better opportunities to enhance brand value and consequently, build strong brand equity.

Product innovation is a vital component of branding strategies, because it fosters and improves the performance of the brand considerably (Aaker, 1996). Mainly, the creation of new and innovative products could empower business growth and increase profit margins in comparison with those that put less emphasis on innovation. Innovation capabilities through the activities related to introduction of innovative and differentiated product features would facilitate for firms to increase brand awareness and improve the appeal of their brands (Kingsland, 2007). Davcik (2013) demonstrated that by focusing on different sorts of innovation, such as technological and production aspects, organizations would gain better chances to enhance their overall brand equities. For example, several scholars accepted relationship quality as a fundamental resource of firm’s competitiveness. Tan, Mavondo, and Worthington (2011) thought about resource-based theory as a strong theoretical ground for linking innovation capability with customer-relationship quality. They asserted that the ability of a brand to innovate and come up with products that are innovative and unique will prove its capability to build superior customer relationships.

Previous research reported that the relationship between product innovation and relationship quality is significant and positive (Dimiyati, 2011; Hussain et al., 2013). Stock (2011) indicated that innovativeness which is reflected through a firm’s ability to make new changes in product features is a significant strategy for improving customer satisfaction and strengthening their relationships with a brand. Moreover, Dimiyati (2011) found out product innovation had significant positive effect on creating brand trust; an element of relationship quality which in turn lead to brand loyalty and commitment of customers. Consequently, being the first mover to market with a new product would grant the manufacturing brand with various marketing advantages in terms of creating strong customer relationships and protecting it from being threatened by competition.

Most of the past studies on product innovation indicated that it has positive impact on brand equity creation (Chien, 2013; Sriram, Balachander, & Kalwani, 2007; Yang, 2008). Sinapuelas and Sisodiya (2010) reported that the relationship between brand equity and product innovation is strong and positive, and higher record of innovative product lead to superior brand equity. Similarly, Holland, Schekleton, and Na (2011) indicated that innovative capabilities which focus on product design attributes had significant impact on brand equity. As a result, innovative products could influence purchase decision and ease the growth of organizations (Rosenbusch, Brinckmann, & Bausch, 2011). Incidentally, organizations should exert bulky emphasis on the elements of

product innovation and incorporate it into core strategies to build brand equity and enhance their competitiveness (Sriram et al., 2007). Based on the discussion made above, the following hypotheses are presented:

H2: Product innovation has positive effect on overall relationship quality.

H3: Product innovation has positive effect on overall brand equity.

H4: Relationship quality mediates the relationship between product innovation and brand equity.

2.6 Linking Service Quality to Relationship Quality and Brand Equity

The resource-based view theory posits that competitive advantage can be obtained by developing distinctive competencies based on superior capabilities and valuable resources (Hays, Hill, & Carlson, 1990). Hays and Hill (1999) indicated that superior service and product quality are distinctive competences that can lead to competitive advantage. They further demonstrated that quality is an important determinant of both brand equity and profitability in diverse markets. Similarly, Mourad et al. (2011) considered service quality as a competitive factor for an organization which can protect it from competitors, and facilitates its ability to gain favourable brand equity. Hennig-Thurau and Klee (1997) added that delivering high quality of services is very important for developing customer relationships.

As stated above, relationship quality consists of three elements namely; brand trust, brand commitment, and brand satisfaction. All of these dimensions contribute to developing overall relationship quality. Based on the review of literature, it shows that service quality is one of the essential factors that can enhance brand trust and creates long-lasting customer relationships (Grefen, 2002; Kim, Xu, & Koh, 2004). In this way, in order to trust a brand, firms should first focus on providing superior service quality that matches customer expectations (Roostika, 2011). Hennig-Thurau and Klee (1997) argued that delivering high quality of services to customers is essential for increasing and developing brand trust. Other scholars reported that brand trust can be established when customers gain confidence, integrity, and reliability from a service provider (Morgan & Hunt, 1994; Omar et al., 2009; Wong & Sohal, 2002).

Furthermore, a number of studies found that service quality had significant positive effect on relationship quality elements, such as brand trust (Akbar & Parvez, 2009; Andreas & Simon, 2007; Zehir et al., 2011), brand commitment (Taleghani et al., 2011; Brady & Croni, 2001), and brand satisfaction (Ahmad & Hashim, 2011; Akbar and Parvez, 2009; Maghzi et al., 2011; Pappu & Quester, 2006). The results were confirmed by Lertwannawit and Gulid (2011) who demonstrated that the path relationship between service quality and brand trust is significant and positive. Moreover, certain studies found that service quality has significant effect on brand equity and contribute to the success of the brand (Mourad et al., 2011; Nowak et al., 2006). The above discussion reveals that service quality is an important predictor of relationship quality and brand equity. Specifically, organizations that provide high quality of services to their customers, will as a result gain stronger capabilities in managing customer relationships and building brand equity. Thus, the following hypotheses are presented:

H5: Service quality has positive effect on overall relationship quality.

H6: Service quality has positive effect on overall brand equity.

H7: Relationship quality mediates the relationship between service quality and brand equity.

Based on the review of literature and underpinning theories that are discussed above, the research framework for this study is developed as shown below:

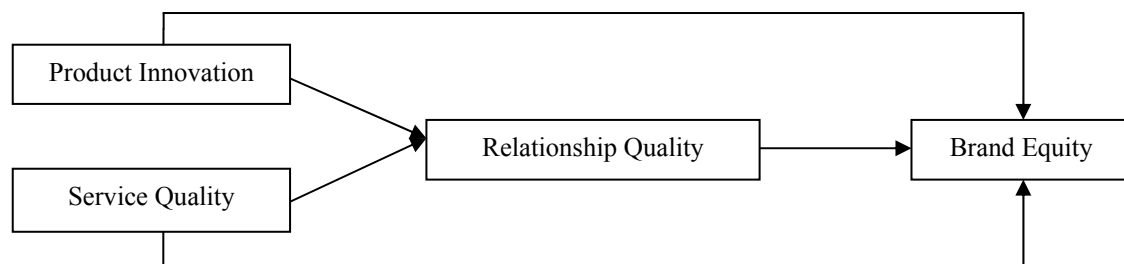


Figure 1. Research framework

3. Methodology

This study is designed to examine the effects of product innovation and service quality on brand equity mediated by relationship quality in Malaysian automotive market. Particularly, a survey questionnaire was employed for data collection from the respondents at several shopping centers in Northern region of the country; Penang, Kedah, and Perlis. Specifically, passenger car users were selected to participate in answering the questionnaire, because they possess the experience and knowledge about the automotive brands they have. As provided by the official portal of road and transport department, the total number of passenger cars on Malaysian road in Northern area as for the year of 2014 exceeds one million. Therefore, based on Krejcie and Morgan (1970) table, a sample size of 384 is used to collect the data from respondents. Systematic sampling technique was further used to randomize the selection of respondents at shopping malls. Specifically, every 10th leaving customer from each shopping mall was requested to participate in answering the questionnaire. This procedure was continued until the desired number of questionnaires is obtained.

The measurement items of constructs in this study were adapted from past researches. All of the items were measured on a seven-point Likert scale ranging from 1= strongly agree to 7= strongly disagree. Product innovation is measured using five items adapted from the study of Stock (2011). Moreover, the measurement items of service quality were adapted from Taleghani et al. (2011). Similarly, relationship quality was measured in terms of three elements; brand trust, brand commitment, and brand satisfaction. The instrument utilized to measure relationship quality is based on past studies with some amendments to ensure that it would be appropriate with the context of this study. Specifically, brand trust was measured using five items adapted from Mohammad (2012). Moreover, brand commitment was measured using four items adapted from Ok et al. (2011). Additionally, brand satisfaction was measured using five items adapted from Zboja and Voorhees (2006).

Moreover, brand equity in this study was measured using four dimensions; brand awareness, brand loyalty, brand image, and brand leadership. The scale employed for measuring brand awareness is adapted from the study of Yasin et al. (2007). Besides, brand loyalty was measured using four items adapted from Nigam and Kaushik (2011). To measure brand image, five items were adapted from Nigam and Kaushik (2011). Finally, brand leadership was measured using four items adapted from Aaker (1996), and Liaogang et al. (2007). All the scales are chosen because they have high reliability and were tested in several previous studies.

4. Analysis of Results

To fulfill the requirements of sample size for data collection, 384 questionnaires were personally administered to passenger car users in Northern Malaysia. However, only 287 participants returned the questionnaire back representing 74.7% response rate. However, to fulfill the assumptions of data analysis, some questionnaires were not included in data analysis, because they were found to be incomplete. For instance, 30 questionnaires were eliminated because they were considered as outliers. Overall, the respondents' profile indicated that 136 participants were male represented by 47.4%, whereas 151 (52.6%) were female. On age profile, the results demonstrated that only 12.5% of respondents were 25 years old or less, whereas the majority 48.8% under the age category of 26-35. Those whose age between 36 and 45 are represented by 16%, and 22.6% were 46 years or more. Furthermore, 75.3% of the respondents were Muslims, 14.6% were Buddhists, 4.5% were Hindu, 4.9% were Christians, while 0.7% belongs to other religions. Finally, the respondents' profile indicated that 43.2% had High school certificate, 21.6% had diploma, 25.4% had bachelor degree, 8% had postgraduate certificate, whereas 5 respondents represented by 1.7% had other certificates.

Factor analysis was conducted on the constructs and the results showed that the value of Kaiser-Meyer-Oken (KMO) is equal to 0.962 which is above the recommended value of 0.6 as suggested by Pallant (2001). The Bartlett's test of sphericity was found to be significant ($P = .000$) which provides initial support for the assumption of existing a correlation between the constructs. Furthermore, the principal component was used to run these factor analyses, and the result showed expected number of components for the constructs according to the Eigen value. These constructs have captured 84.020% of total variance in the items.

To test the reliability of constructs, Cronbach's alpha was calculated. The results revealed that all constructs had acceptable reliability (internal consistency); product innovation (0.923), service quality (0.920), relationship quality (0.935), and brand equity (0.976). This means that the values for all constructs are more than 0.70, and thus, convergent validity is supported (Hair et al., 2010). Moreover, Composite reliability was calculated and the result also indicated that it was achieved for the constructs; product innovation (0.924), service quality (0.924), relationship quality (0.937), and brand equity (0.870). Therefore, it can be concluded that reliability assumptions are supported.

Another test for ensuring the validation of constructs called discriminant validity is conducted. The main purpose

of discriminant validity is to ensure that the scale items of each construct are in fact distinct from each other as assumed. To test discriminant validity, the average variance extracted (AVE) procedure was followed. Byrne (2010) reported that an AVE value of 0.50 or more should be treated as an indication of discriminant validity and high validity of constructs in the model. In general, the results revealed that all constructs exceeded the recommended threshold value of AVE which confirms the assumptions of discriminant validity.

Confirmatory factor analysis (CFA) was also conducted in order to confirm the factor loadings of each construct (product innovation, service quality, relationship quality, and brand equity). Based on the results, it shows that the factor loadings for all items were acceptable, ranging from 0.75 to 0.96 (see Appendix A). This indicates that all constructs confirm/ satisfy construct validity. Because SEM is highly concerned with the model fit including all variables together, several indices were employed to assess the goodness of model fit. As shown in figure 2, the structural model yielded a significant chi-square (1522.730, $p < 0.05$). To further ensure the goodness of model fit, other fit indices were used (GFI = 0.850, AGFI = 0.827, TLI = 0.934, CFI = 0.940 and RMSEA = 0.058). Based on these findings, it can be concluded that the model reasonably fits the data (Hair et al., 2010).

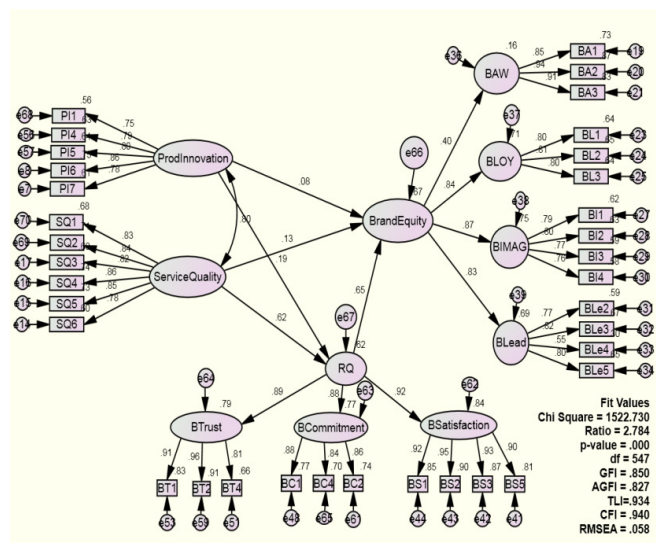


Figure 2. Structural model

To test the hypotheses presented in the previous sections, the outputs of structural model were generated. As shown in Table 1, the findings indicate that relationship quality has a significant positive effect on brand equity ($\beta = 0.555$, CR = 9.035, $p = < 0.001$), therefore H1 is accepted. Similarly, the influence of product innovation on relationship quality is statistically significant and positive ($\beta = 0.221$, CR = 3.057, $p = < 0.05$), thus H2 is accepted. Furthermore, the relationship between product innovation and brand equity is significant ($\beta = 0.137$, CR = 4.143, $p = < 0.001$), thus H3 is accepted. The findings also reveal that service quality has significant positive effect on relationship quality ($\beta = 0.758$, CR = 3.711, $p = < 0.001$), therefore H5 is accepted. Finally, this study found that service quality has positive effect on brand equity ($\beta = .137$, CR = 9.344, $p = < 0.001$), hence, H6 is accepted. Overall, the results support the significant positive effect of product innovation and service quality on relationship quality and brand equity. These factors jointly explained 62% of variance in relationship quality. In total, product innovation, service quality, and relationship quality, explained 67% of variance in brand equity.

The procedure for testing mediating is based on bootstrapping method to test the effect of the independent variables on brand equity through relationship quality. In fact, bootstrapping is an established method for examining indirect effects and it computes accurate confidence intervals (CI) of indirect effects) in comparison with other methods, such as causal steps strategy which is suggested by Baron and Kenny (1986) and the Sobel test. Another relative advantage of bootstrapping is the free assumption of normality on sampling distribution (Preacher & Hayes, 2008). The significance of bootstrapping emerged to be suitable for testing indirect effect because it has distribution which is skewed away from zero (Shrout & Bolger, 2002). To accomplish the process of mediation testing, both direct and indirect estimates based on the results of structural model were reported (Preacher & Hayes, 2008) with 1000 bootstrap samples. As presented in Table 2, bias-corrected confidence intervals were reported at the level of 95%.

Table 1. Research findings

	Hypothesized Effect	Std. Estimate	S.E.	C.R.	P	Support
H1:	Relationship quality has positive effect on brand equity.	0.555	0.061	9.035	***	Yes
H2:	Product innovation has positive effect on relationship quality.	0.221	0.072	3.057	***	Yes
H3:	Product innovation has positive effect on brand equity.	0.137	0.065	4.143	***	Yes
H5:	Service quality has positive effect on relationship quality.	0.758	0.081	3.711	***	Yes
H6:	Service quality has positive effect on brand equity.	0.137	0.081	9.344	***	Yes

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

As mentioned by Hayes (2009), “Simulation research shows that bootstrapping is one of the most valid and powerful methods for testing intervening variable effects (Williams & MacKinnon, 2008) and, for this reason alone, it should be the method of choice” (pp. 7&9). The procedure for testing mediating effect of relationship quality indicated an insignificant direct effect of product innovation on brand equity (0.160, 95% CI) while its indirect effect was significant (0.008) (see Table 2), hence, full mediation is confirmed. Moreover, the bootstrapping procedure indicated an insignificant direct effect of service quality on brand equity (0.364, 95% CI) and a significant indirect effect (0.001), thus full mediation is supported. In general, H4 and H7 are supported.

Table 2. Indirect effects of product innovation and service quality on brand equity

	Bootstrapping		BC 95% CI		Two-Tale sig	Direct Effect	Indirect Effect
	Estimate	Std. Error	Lower Bound	Upper Bound			
Product innovation	0.126	0.085	0.027	0.261	0.010	0.160	0.008
Service quality	0.409	0.078	0.270	0.581	0.001	0.364	0.001

Mediator: Relationship quality

5. Discussion

Prior research pays little attention to the effect of product innovation and service quality on brand equity. Particularly, most of the existing studies on service quality have focused on service contexts rather than manufacturing sectors, in addition to targeting Western customers for their samples. The current study provides significant contributions to the literature by examining the effect of product innovation and service quality on brand equity in Malaysian automotive market. Examining the influence of the said variables on brand equity would enrich the literature and provides significant implications for industry management since customers from various cultures might possess different preferences or expectations toward the product provided by a brand. Besides, the level of technological development differs from country to country; therefore, the findings from Asian context may yield different outcomes and conclusions. For instance, the level of organizational competitiveness relies on firms' ability to deliver innovative products allied with quality of services to their customers in an environment which is characterized by intense competition. In the Malaysian scenario, it is evident that the automotive sector is highly competitive and the market demand requires manufacturer to update their products and services from time to time. It is suggested that the local manufactures should exert high efforts in introducing new products with differentiated features to maintain their presence in the market and enhance customer relationships and affiliation with their brands.

The results indicated that product innovation has a significant and positive effect on relationship quality. A greater support was reported by stock (2011) who found out product innovation as one of the main factors for

strengthening customer relationships. Moreover, this study provides an evidence of the significant relationship between product innovation and brand equity. This result is in line with Nemati (2010) who indicated that product innovation had significant impact on brand equity. Henard and Dacin (2010) further demonstrated that organizations cannot overlook the significant role of product innovation in creating sustainable competitive advantage and affecting customers' purchase decisions. Additionally, this study provides an evidence of the full mediating effect of relationship quality between product innovation and brand equity.

The findings of this study also revealed that service quality has significant positive effect on relationship quality. The result is in line with several previous studies (Ahmad & Hashim, 2011; Akbar & Parvez, 2009; Taleghani et al., 2011) which provided evidence that service quality positively affected relationship quality. Moreover, this study provides an empirical support for the significant relationship between service quality and brand equity and it was supported by He et al. (2011). Meanwhile, relationship quality plays a full mediating role between service quality and brand equity, whereby the direct effect is insignificant while the indirect effect was significant. Finally, this study underlies the importance of relationship quality for business success and guiding firms toward developing brand equity through the intangible values added to products and services.

In general, the findings of this study indicate the importance of product innovation and service quality as key strategic factors in affecting brand equity. Based on the resource based theory and social exchange theory, these factors provide a strong platform for firms to enhance brand equity. Particularly, this study aims to contribute to these theories by incorporating the said variables and relationship quality as a mediator between them in the context of automotive industry. Therefore, the analysis of the relationships between the proposed variables would enhance the establishment of generalization across relevant streams of research and cover existing gaps in the literature. The preceding sections describe the limitations and future research and ends with conclusion and implications.

6. Limitations and Future Research

This study has several limitations which would open opportunities for future researches. For example, several difficulties were incurred while approaching the respondents at shopping malls. Besides, this study has only targeted passenger car users in the Northern Malaysia at three states; Penang, Kedah, and Perlis. Thus, we suggest for further researches to conduct similar studies and cover other geographical areas in different industry contexts. An interesting research may also make a comparison between the perception of car users toward local and foreign brands. This might provide useful practical implications for automotive manufacturers to clearly understand the significant factors that could drive the international success of their brand besides enhancing the economic aspect of the country. Finally, this study collected the data from respondents using survey method; consequently, future research can take the opportunity to follow other methodological approaches to gain better knowledge on the important strategies associated with the establishment of brand equity.

7. Conclusion and Implications

The purpose of this study was to examine the effects of product innovation and service quality on brand equity in Malaysian automotive market from the perspective of customers. Interesting, the findings indicated that product innovation and service quality play important roles in affecting brand equity. Moreover, the findings provide empirical support for the significant effect of product innovation and service quality on developing customer relationship quality. Prior research paid less attention to examining the effect of service quality on brand equity and relationship quality in manufacturing contexts, particularly in Asian countries. Additionally, most of the past studies on service quality and product innovation focused on Western countries for sampling their customers. This study contributes to the literature by testing the effects of service quality and product innovation on brand equity with a sample from Southeast Asia: Malaysia. Examining the effects of such variables in different economic and cultural contexts is essentially relevant for empirical research on service quality and product innovation; this is because customers from diverse cultures could have dissimilar preferences or expectations of the product features and service quality elements. In addition, different levels of economic as well as technological developments can ascribe diversified levels of customer expectations.

In general, this study confirms that product innovation and service quality are significant drivers for brand equity. It further indicates that their effects on brand equity are fully mediated by relationship quality. This suggests that improving product innovation and service quality perceptions are not enough for creating strong brand equity; these factors should be accompanied by the customer-brand relationship quality. Our results add weight to the literature which has lack of research on the mediating effect of relationship between such variables. Finally, both the resource based theory and our empirical findings support indirect effects of product innovation and service quality on brand equity, thus, it suggests that these factors still powerful predictor of brand equity and play

important roles in building organization's competitive advantage and driving brand success. Consequently, the findings of this study contribute to resource-based view theory by covering existing gaps in the literature and establishing better generalizations across relevant research streams.

The findings also provide practical implication for automotive brand managers. For instance, an improved level of innovation is an important strategy that could develop positive image of Malaysian car brands. In order to accomplish this, local operators should invest extensively on research and development and learn from foreign experts the process of creating innovative products that would meet market needs. Indeed, the technological aspects with value added features are very crucial to sustain Malaysian car brands in the presence of business environment. For instance, it is vital for Malaysian brands to compete on some factors that could influence the perception of customers, such as interior and exterior product design, safety insurance, and green technology. As a result, in order to become highly innovative and successful in global markets, it is an accomplishment that cannot be attained within a short period of time. Sufficient human and capital resources are necessary, besides thorough research period. Therefore, to enter the international markets, it is a key for the Malaysian car brands to embody high innovativeness in an attempt to improve the mindset of customers.

Service quality is another phase to which automotive managers need to give attention. In fact, services quality seems to be very important in car products. A well-designed package of customer service may discover some issues carried by the products of a brand. For instance, in terms of the quality emphasis, Malaysian car brands can promote an extension of warranty period such as the one promoted by Hyundai at its international markets. Compared to the period of warranty provided by global car brands, a prolonged warranty may assist Malaysian brands to obtain more working-class customers jointly with its salient advantage on price. After sale service may also provide additional values to customers and enhance their overall brand evaluation. Moreover, the findings of this study suggest that automotive managers should set a training program for their employees in order to reinforce their communication skills and enhance their interactions with potential customers during service delivery so as to prove higher concerns toward solving the issues of customers at a time. It is also suggested that the automotive managers should keep training their customer service staffs so as to further improve their skills to be more professional and have adequate skills in dealing with any issue faced by customers.

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Appendix A

Table A1. Measurement scale of constructs

Code	Product Innovation ($\alpha= 0.913$)	Factor loadings
PI1	This car brand is highly innovative compared to other car brands in the market.	0.75
PI4	This car brand is frequently supplemented with new features and specifications for the customers	0.79
PI5	This car brand differs from competing models in the market.	0.80
PI6	This car brand frequently comprises new features which are meaningful to the customers.	0.86
PI7	This car is considered to be innovative in terms of product design.	0.78
Service Quality ($\alpha= 0.940$)		
SQ1	This car brand offers excellent service.	0.83
SQ2	I feel good about what this car brand offers to its customers	0.84
SQ3	The quality of my interactions with this car brand's employees is good.	0.82
SQ4	The physical environment of this car brand's sales centres is one of the best in its industry.	0.86
SQ5	The physical environment of this car brand's service centres is one of the best in its industry.	0.85
SQ6	This car brand has fair system for the handling of complaints.	0.78

Table A2. Relationship quality

Code		Factor loadings
a. Brand Trust ($\alpha= 0.934$)		
BT1	The car brand I'm using is trustworthy	0.91
BT2	The car I'm using is reliable.	0.96
BT4	The car I'm using is safe.	0.81
b. Brand Commitment ($\alpha= 0.911$)		
BC1	I am committed to this car brand.	0.88
BC2	I am willing to make small sacrifices in order to keep using this car brand.	0.86
BC4	I will stay with this car brand through good and bad times	0.84
c. Brand Satisfaction ($\alpha= 0.968$)		
BS1	I am satisfied with my decision to purchase this car.	0.92
BS2	My choice to buy this car was a wise one.	0.95
BS3	I think that I did the right thing when I bought this car.	0.93
BS5	I am truly enjoyed the purchase of this car.	0.90

Table A3. Brand equity

		Factor loadings
a. Brand awareness ($\alpha= 0.941$)		
BA1	I know how the symbol of this car brand looks like.	0.85
BA2	I can recognize the brand of this car among other competing brands.	0.94
BA3	I can quickly recall the symbol or logo of this car brand.	0.91
b. Brand loyalty ($\alpha= 0.906$)		
BL1	I'm loyal to this car brand.	0.80

BL2	If in future, I want to buy a new car this brand would be my first choice.	0.81
BL3	I will recommend this car brand to my friends.	0.80
c. Brand image ($\alpha= 0.925$)		
BI1	This car brand has created a distinct image in my mind.	0.79
BI2	This car brand has given me whatever it promised to me.	0.80
BI3	This car brand provided me a better life style.	0.77
BI4	This car brand I'm using is associated with the manufacturer's image.	0.76
d. Brand leadership ($\alpha= 0.940$)		
BLe1	This car brand is growing in popularity.	0.77
BLe2	This car brand is innovative, first with advances in services.	0.82
BLe4	This car brand is innovative, first with advances in products	0.55
BLe5	This car brand is stylish when it comes to product design.	0.80

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