The influence of brand personality and relative brand identification on brand loyalty in the European mobile phone market

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Abstract

This study investigates the influence of brand personality on consumer loyalty and the moderating role of relative brand identification for multiple brands in the same product category. Survey data were collected from 1,651 respondents in the United Kingdom, France, and Germany. Results indicate that dimensions of brand personality that are positively associated with consumer brand loyalty vary across brands in the mobile phone category. Furthermore, relative brand identification not only positively affects consumer loyalty, it also moderates the relationship between brand personality and consumer loyalty. Copyright © 2015 ASAC. Published by John Wiley & Sons, Ltd.

Résumé

Cette étude examine l'influence que la personnalité de la marque a sur la fidélité des consommateurs et le rôle modérateur de l'identification relative des marques pour les marques multiples appartenant à la même catégorie de produits. Les données de l'enquête sont collectées auprès de 1651 répondants au Royaume-Uni, en France et en Allemagne. Les résultats montrent que dans la catégorie des téléphones mobiles, les dimensions de la personnalité de la marque qui sont positivement reliées à la fidélité des consommateurs à une marque varient en fonction des marques. Par ailleurs, s'il est vrai que l'identification relative de la marque influence positivement la fidélité du consommateur, il n'en demeure pas moins qu'elle modère la relation entre la personnalité de la marque et la fidélité des consommateurs. Copyright © 2015 ASAC. Published by John Wiley & Sons, Ltd.

Keywords: consumer loyalty, brand loyalty, brand personality, relative brand identification, dimensions

Mots-clés : fidélité des consommateurs, fidélité à la marque, personnalité de la marque, identification de la marque, dimensions

When consumers are loyal to a particular brand, the company reaps many market advantages, including reduced marketing costs, positive word of mouth, returning customers, and a protected enclave of consumers in a competitive economy (Chaudhuri & Holbrook, 2001; Jacoby & Kyner, 1973; Phau & Cheong, 2009; Tsai, 2011). The brand loyalty literature suggests that the key to gaining these coveted advantages is to build a strong, unique brand personality (Aaker, 1996; Koo & Kim, 2013; Plummer, 1985). And because a lack of distinct brand personality can hinder companies from building strong brand loyalty (Timberlake, 2013), companies heavily invest in creating strong brand

personalities that differ from those of their competitors (Batra, Myers, & Aaker, 1996; O'Cass & Lim, 2002).

Although practitioners have considered brand personality central to differentiating a brand in a product category (Halliday, 1996), research on brand personality was limited because there was no reliable, valid, and generalizable scale to measure brand personality. Motivated by this limitation, Aaker (1997) developed a general framework of brand personality consisting of five dimensions: sincerity, excitement, competence, sophistication, and ruggedness. Built on this framework, subsequent studies have shown that brand personality is positively associated with consumers' perceptions of the product's quality (Ramaseshan & Tsao, 2007), brand equity (Valette-Florence, Guizani, & Merunka, 2011), product evaluations (Freling & Forbes, 2005), and brand loyalty (Kim, Han, & Park, 2001). For instance, using a fictitious brand, Freling and Forbes (2005) showed positive effects of brand personality across five dimensions of brand

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personality. More recently, research has investigated moderators of the effect of brand personality. Swaminathan, Stilley, and Ahluwalia (2009) examined the moderating role of attachment styles in the effects of brand personality. They showed that interpersonal attachment styles influence the extent of brand personality effects and that different personalities are likely to affect consumers who differ in their attachment styles.

Despite this substantial attention to brand personality, empirical research has mainly focused on a single brand (e.g., Freling & Forbes, 2005) or only a few selected dimensions of brand personality (e.g. sincerity and excitement; see Swaminathan et al., 2009). Because a brand's unique personality traits (e.g., the most powerful brand of a personal computer or PC) can offer sustainable competitive advantages by erecting a barrier against competitors, companies try to build a clear and distinctive brand personality (Diamantopoulos, Smith, & Grime, 2005). However, a lack of research comparing the impact of various dimensions of brand personality across brands can cause companies to chase one brand personality trait after another and subsequently lose their key dimensions of brand personality in the long run (Sherr & Ramstad, 2013). Thus, there is a paucity of research on the effect of various dimensions of brand personality across brands, particularly when few brands compete with each other in a highly competitive market such as the high-tech product market (Sung, Kim, & Jung, 2010).

In addition, there is limited research on what factors moderate the impact of brand personality on brand loyalty. Prior research has recognized that brand identification, which is a consumer's perceived state of oneness with a brand, is an important determinant of brand loyalty (Carlson, Donavan, & Cumiskey, 2009; Kuenzel & Halliday, 2010; Tildesley & Coote, 2009). Although consumers can perceive "oneness" with multiple brands (Bhattacharya, Rao, & Glynn, 1995; Lam, Ahearne, Hu, & Schillewaert, 2010), prior studies have generally examined consumers' identification with a single brand, without taking into account whether the consumer is identifying with more than one brand at a time. This gap can be filled by investigating the impacts of relative brand identification (RBI) and the extent to which consumers identify with a given brand relative to other brands.

In sum, the present research examines (a) the relationship between the five dimensions of brand personality and brand loyalty across multiple brands in the same product category, (b) the influence of relative brand identification, and (c) the moderating role of relative brand identification in the relationship between brand personality and brand loyalty.

In this study, we selected the mobile phone category in the European market for two reasons. First, to ensure consumer identification with a brand, a product should be frequently used and widely available. Moreover, to make the comparison of brand effects across multiple brands meaningful, the product market should have several brands actively competing with one another. Europeans, on average, made

144 minutes of mobile phone calls and sent 54 text messages per month in 2010 (Whitehead, Phillips, Page, & Molina, 2011), indicating that they use mobile phones frequently. Europe also had the highest mobile penetration rate (128%), compared to other regions, including Japan and the United States (Whitehead et al., 2011). This indicates that European consumers are likely to have experience with at least more than one brand. Because this study assesses consumer identification with multiple brands (i.e., measures within subjects), we expect that the availability and frequent usage of mobile phones in Europe would allow consumers to experience and identify with multiple brands. Using data collected through an online questionnaire administered in three countries (the United Kingdom, Germany, and France), this study directly compares the influence of the five dimensions of brand personality on brand loyalty across the top four mobile phone brands (Samsung, Apple, Nokia, and Sony) and explores the moderating effect of relative brand identification (Curlo & Chamblee, 1998; Keller, 1998; Kim et al., 2001; Kuenzel & Halliday, 2008).

This study contributes to the existing literature on brands in multiple ways. First, it is one of the first to consider and empirically test the influence of all five dimensions of brand personality on brand loyalty. Results show that the dimensions of brand personality that significantly influence brand loyalty vary across brands in the same product category, and these differences exist even after controlling for exogenous effects such as age, gender, country, market share, and product involvement. In order to create positive and recognizable brand personality, companies need to simultaneously consider various dimensions of brand personality and their effects. Although the conventional implications of the marketing literature suggest that companies should distinguish their brands from others, there has been little empirical research on brand personality. However, we empirically demonstrate that the positive influence of multiple dimensions of brand personality differs across brands. These findings emphasize the importance of a comprehensive understanding of brand personality. Second, whereas previous research limits consumers' identification with a single brand isolated from competing brands in the category (e.g., Carlson et al., 2009; Kuenzel & Halliday, 2008), the present study concerns relative brand identification, which indicates how deeply a consumer identifies a given brand *relative to* other brands, and allows for the possibility that consumers identify with multiple brands in the category (Lam et al., 2010). Thus, the current study overcomes the limitation of previous work by more accurately demonstrating the impact of brand identification. Finally, this study advances the understanding of the effect of brand personality by investigating when brand personality has a greater or lesser impact on brand loyalty, depending on relative brand identification. The findings of this study enable market researchers and practitioners to understand the interactive influence of brand personality and relative brand identification on brand loyalty. The remainder

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of the paper is organized as follows. We next formalize the roles of brand personality and relative brand identification in brand loyalty, and examine the moderating effects of relative brand identification. Following that, we present the methodology and results of this study. We then discuss theoretical and managerial implications of the findings and highlight directions for future research.

Literature Review and Hypothesis Development

Brand Personality

Brand personality can be defined as "the set of human characteristics associated with a brand" (Aaker, 1997, p. 347). Companies frequently associate their brands with human personality traits (Aaker, 1997; Leonard & Katsanis, 2013; O'Cass & Lim, 2002; Parker, 2009) because the value of a brand is an important vehicle of self-expression for their consumers as well as an important tool in differentiating their brand from the competition. For example, Apple uses personification to emphasize the brand personality of the Mac. In its TV commercials, an actor representing the Mac projects the image of someone young, hip, and cool to differentiate the Apple brand from that of the PC (Freling, Crosno, & Henard, 2011).

Whereas there has been considerable research on the brand personality construct, understanding how this construct actually influences consumer behaviour is limited, partly due to the lack of consensus regarding what brand personality really is. To address this issue, Aaker (1997) developed a framework of the five dimensions of the brand personality construct: sincerity, excitement, competence, sophistication, and ruggedness. Subsequent research has examined which brand personality dimensions matter to which consumers, depending on their individual characteristics (e.g., Swaminathan et al., 2009; Xue, 2008) and situational factors (e.g., Aaker, 1999). For example, Aaker (1999) found that the preference for a brand varies according to the situation in which the product is used and the personality associated with the product. In one of her studies, she asked participants to imagine themselves in a particular dinner scenario with a high salience excitement (i.e., "hip club with a date") and rate their preferences for using certain brands in the situation. She found that people preferred exciting brands, suggesting that people tend to "highlight" certain aspects of their personality by selecting brands whose traits are made temporally accessible by situational cues.

A strong brand personality causes consumer preference for the brand (Malhotra, 1981; Sirgy, 1982), emotional ties between the consumers and the brand (Biel, 1993), trust and attachment to the brand (Fournier, 1998), and general brand loyalty (Hosanya, Ekincia, & Uysalb, 2006; Keller, 1998; Kim et al., 2001). We have extended these studies by investigating whether the dimensions of brand personality that influence brand loyalty differ across multiple brands.

Brand Personality across Multiple Brands

Companies try to build unique brands because the uncommon features of their brand provide diagnostic information, differentiating their brand from others' (Netemeyer et al., 2004). While efforts have been made to explain the influence of specific dimensions of brand personality (Aaker, Fournier, & Brasel, 2004; Kim et al., 2001; Swaminathan et al., 2009), little empirical research has examined all five dimensions of brand personality as identified by Aaker (1997). For a given brand, this study simultaneously compared the effects of the brand personality dimensions across multiple brands in a category. More importantly, this lack of empirical work could lead companies to blindly imitate competitors' brand personality (Zhiming, Tao, Hailiang, & Qianyi, 2013) without understanding what dimensions of brand personality affect their customers. Thus, companies may build similar brand personalities rather than develop their own unique brand personalities (Moser, 2003).

Research indicates that certain brand personality dimensions are more closely related to particular product categories (Leonard & Katsanis, 2013; Maehle, Otnes, & Supphellen, 2011). For instance, Maehle et al. (2011) found that people tend to link a competent brand personality to technical appliances, such as Sony and Philips, and people tend to perceive technical brands with cool designs, such as Apple, as exciting. Although some dimensions are associated with particular product categories, other research suggests that brands with a similar brand concept can be linked to different brand personalities. Ramaseshan and Tsao (2007) showed that whereas both brands possess the same functional brand concept, consumers associate Colgate toothpaste with competence but Pantene shampoo with excitement. Because distinctive brand personalities could create unique and favourable associations in a consumer's memory that enhance brand equity (Johnson, Soutar, & Sweeney, 2000; Keller, 1993), the dimensions of brand personality that companies want to associate with their products can differ, even in the same product category. Therefore, the present study aims to extend the previous research that compared brand personality across different categories (e.g., Ramaseshan & Tsao, 2007) by examining the influence of brand personality dimensions across multiple brands in the same product category. We therefore hypothesize:

> *H1: The dimensions of brand personality that positively influence brand loyalty will vary across brands.*

Relative Brand Identification

Social identity theory suggests that people can identify with a social entity without directly interacting with that entity (Kuenzel & Halliday, 2010), implying that consumers can perceive "belongingness" or "oneness" with companies

that they do not physically belong to or with products that they do not physically possess. Building on theories of social psychology, consumer research has defined brand identification as a consumer's perceived state of oneness with a brand (Carlson et al., 2009; Kuenzel & Halliday, 2010; Tildesley & Coote, 2009).

Since brands carry symbolic meanings, consumers use particular brands to achieve their own fundamental identity goals (Belk, 1988; Stokburger-Sauer, Ratneshwar, & Sen, 2012). When consumers identify with a brand, they not only purchase the product, they become loyal to the brand (e.g., Homburg, Wieseke, & Hoyer, 2009; Lam et al., 2010; Stokburger-Sauer et al., 2012). For example, Freling and Forbes (2005) demonstrated that consumer brand identification inhibits consumers from switching to other brands as well as influences consumers to repurchase the brand's product. Research has also identified numerous antecedents of brand identification. For instance, Stokburger-Sauer et al. (2012) revealed that brand–self similarity, brand distinctiveness, brand social benefits, brand warmth, and memorable brand experiences have impacts on brand identification.

Interestingly, most research has not considered the fact that consumers can feel oneness with multiple brands simultaneously. Research on social identity suggests that people can belong to multiple social entities at once (Roccas, 2003; Stryker & Statham, 1985). Bhattacharya et al. (1995) posited that a person's identification with an organization cannot be isolated from other organizations, and it is not simply a bilateral relationship between the person and organization. Consistently, marketing research indicates that consumers can develop multiple identification with multiple brands when they are able to make their choices from multiple brands in the same product category (Bhattacharya et al., 1995; Lam et al., 2010). Thus, given the multiple identification with various brands, consumers' brand identification with a given brand relative to other brands may more accurately predict consumer behaviour than single-brand identification with only a given brand. For example, one's identification with Apple compared to alternative brands, such as Samsung or Nokia (i.e., *relative* brand identification), will more accurately predict the influence of brand identification rather than one's identification with Apple (i.e., brand identification).

Thus, in a competitive market where few brands compete with each other, this study defines relative brand identification as a consumer's identification with a given brand relative to other competing brands. Further, we propose that relative brand identification (RBI) better predicts brand loyalty than single brand identification. We have extended prior research that focused on consumers' identification with a single brand (e.g., Kuenzel & Halliday, 2008) by examining the positive role of relative brand identification on brand loyalty in the European mobile phone market.

H2: Relative brand identification will positively influence brand loyalty.

The Moderating Role of RBI in the Relationship between Brand Personality and Brand Loyalty

As discussed earlier, previous research suggests that certain dimensions of brand personality and brand identification are positively associated with consumer behaviour (Ramaseshan & Tsao, 2007; Swaminathan et al., 2009). Different from brand personality, which companies strategically associate their brands with, brand identification is built on consumers' interaction with brands (Stokburger-Sauer et al., 2012). Thus, there could be separate and independent influence of brand personality and brand identification on consumer loyalty. However, the impacts of brand personality and brand identification were generally examined separately, except for the Kuenzel and Halliday (2010) study that examined the influence of brand personality congruence and reputation on brand identification as well as the mediating role of brand identification between these relationships. Our study differs in that we considered brand personality rather than brand personality congruence and assumed that brand personality does not determine the extent to which consumers identify themselves with brand. Thus far, relatively little attention was paid to how brand personality and brand identification interactively influence consumer behaviour.

Recent consumer research posits that not all consumers are equally sensitive to a brand's personality, especially when they are not explicitly directed to focus on the brand's personality. Specifically, Swaminathan et al. (2009) showed that different brand personalities are likely to appeal to consumers who vary in their attachment styles. They found that high anxious consumers, whose attachment styles are low in avoidance, prefer brands that have an exciting rather than a sincere personality. On the other hand, high anxious consumers, whose attachment styles are high in avoidance, prefer brands that are perceived as having sincere personalities relative to brands that are perceived as having exciting personalities. This indicates that the influence of brand personality can vary depending on individuals' factors. Specifically, we predict that the influence of brand personalities on brand loyalty can be moderated by a person's identification with a given brand relative to other brands. According to prior research, one of the key consequences of identification is the advocacy of the object with which individuals identify (Ashforth & Mael, 1989; Bhattacharya & Sen, 2003). For instance, research suggests that people who identify with an organization are more likely to choose activities that are congruent with the organizational identity and values (Ashforth & Mael, 1989; Lee, 2004). Similarly, Park, MacInnis, Priester, Eisingerich, and Iacobucci (2010) posited that consumers with a strong brand-self connection

are likely to engage in relationship-sustaining behaviours, such as positive word of mouth, and showed a strong influence of brand-self connection on promotion behaviour. Additionally, Ahearne, Bhattacharya, and Gruen (2005) showed that customer-company identification affects customer extra-role behaviours, which was measured in part through company recommendations. These findings may indicate that consumers who strongly identify with a particular brand relative to other brands are likely to support and advocate the primary personality of the brand. Thus, the positive impact of brand personality will be enhanced for those for whom relative brand identification is high (vs. low).

Together, the evidence in the previous research indicates that the extent to which consumers identify with a given brand relative to others brands can moderate the impact of brand personality on consumer behaviour. More specifically, we propose that if a consumer identifies with a particular brand, despite the presence of other brands in the product category, the positive influence of the brand's personality on the consumer's loyalty to the brand will be enhanced. Therefore, we posit:

> *H3: Relative brand identification will positively moderate the influence of brand personality on brand loyalty.*

Research Method

Sample and Data Collection Procedure

This study aims to understand the interactive influence of Aaker's five dimensions of brand personality (1997) and relative brand identification on brand loyalty across multiple mobile phone brands in the European market. For this purpose, with the help of a marketing research firm, we conducted an online survey in the United Kingdom, Germany, and France. The questionnaire was administered in English. We first emailed the panels a direct link to the online questionnaire, soliciting their participation in our survey. We then sent their panels several formal notifications to encourage them to answer our questionnaire. The survey was conducted from March 2, 2011 to June 15, 2011, and we obtained 1651 valid responses with a 23.58% valid response rate. From each country, approximately 550 people evenly spanning regions within each country answered the questionnaire, and their demographic structure corresponds to that of the entire population of each country (see Table 1). The sample comprised 57.5% women and 42.5% men, with respondents aged 30 to 39 years comprising the largest proportion of respondents, followed by respondents between 20 to 29 years and then 40 to 49 years. According to a recent market report (Whitehead et al., 2011), our sample reflected the general population of mobile phone owners in the three countries. Notably, most respondents reported that they had experience with at least two mobile phone brands.

At the time of study, the top four mobile phone brands (Samsung, Apple, Nokia, and Sony) accounted for approximately 80% of the mobile phone industry market in Western Europe (IDC, 2011). Previous studies indicated that consumers tended to choose from a set of three to five brands (e.g., Hauser & Wernerfelt, 1990; Jarvis & Wilcox, 1977). Brand personality is generally measured at the brand level (e.g., Coke as a soft drink and Apple as a computer) (Aaker, 1997; Kuenzel & Halliday, 2010). Following previous research, we measured consumer perceptions of four mobile phone brands. Specifically, respondents indicated their brand loyalty (4 items), brand personality (36 items), and brand identification (6 items) with respect to the four brands in the mobile phone market. The order of brands in each questionnaire was randomized. The average response time of the online questionnaire was 35.2 minutes, and the standard deviation was 10.5 minutes.

Table 1

The Descriptive Statistics of the Respondents

Country	Respondents (*N*)	Gender (%)		Age (%)					
		Male	Female	<20	20-29	30-39	40-49	50-59	≥60
The UK	552	40.6	59.4	7.2	27.0	29.3	23.6	8.9	4.0
Germany	552	46.0	54.0	4.8	21.8	34.7	23.0	9.3	6.4
France	547	41.0	59.0	10.0	21.4	33.3	16.5	12.7	6.5
Total	1651	42.5	57.5	7.3	23.4	32.3	21.0	10.3	5.6

Notes: Respondents were evenly distributed in each of the following 15 regions for each country. (1) *The United Kingdom*: London, Birmingham, Manchester, Leeds, Nottingham, Bristol, Liverpool, Sheffield, Southampton, Newcastle, Norwich, Hull, Edinburgh, Reading, and North Hampton, (2) *Germany*: Berlin, Hamburg, Munich, Düsseldorf, Bremen, Frankfurt, Stuttgart, Dresden, Dortmund, Essen, Cologne, Hanover, Leipzig, Bonn, and Duisburg, and (3) *France*: Paris, Lyon, Marseille, Toulouse, Bordeaux, Lille, Nice, Nantes, Toulon, Strasbourg, Montpellier, Rennes, Reims, Dijon, and Brest.

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Measures

Brand personality. Aaker (1997, 1999) shows that brand personality traits can be described in terms of five dimensions: sincerity, excitement, competence, sophistication, and ruggedness. Numerous studies have validated Aaker's five dimensional brand personality scale (1997) using various consumer brands across different product categories (e.g., Aaker, Benet-Martínez, & Garolera, 2001; Kim et al., 2001). Initially, an exploratory factor analysis was done on the 42 items of brand personality with a Varimax rotation. During the factor analysis, six variables that were not related to any factors (i.e., down-to-earth, family-oriented, real, independent, cool, cheerful) were excluded. Thus, this study adopts the 36 traits for the five dimensional brand personality and uses them to measure brand personality. Participants rated each of the four mobile phone brands on the Aaker's brand personality scale using a 7-point Likert-type scale (1 being "strongly disagree" and 7 being "strongly agree"). All questions were presented in a random order (for specific details, see Appendix A, available upon request from the authors).

Relative brand identification. To measure consumers' affective identification with a brand, we used Mael and Ashforth's (1992) identification scale. Six items from the Mael and Ashforth (1992) scale—the validity and generalizability of which has been confirmed by previous studies (e.g., see Kim et al., 2001; Kuenzel & Halliday, 2008; Lam, Ahearne, Mullins, Hayati, & Schillewaert, 2013)—were measured on a 7-point Likert-type scale.

Previous studies suggest that a consumer's relative ratings of a given brand, compared to a competitor's brand, provide a stronger indication of that consumer's perception than considering the brand in isolation (e.g., Ahearne, Jelinek, & Jones, 2007; Burmann, Jost-Benz, & Riley, 2009; Lam et al., 2010). In the same vein, to assess the influence of brand identification accurately, this study uses relative brand identification (RBI) for four competing brands. Following previous studies (Burmann et al., 2009; Kuenzel & Halliday, 2010; Miniard, Rose, Barone, & Manning, 1993; Park & Srinivasan, 1994), we first created composite scores by averaging the scores, and then constructed an RBI index by subtracting the average score of other brands from the score of a given brand. Higher scores in this index indicate greater consumer identification with a given brand compared to other brands.

Brand loyalty and control variables. This study assesses brand loyalty using four items adapted from previous studies and measures them on a 7-point Likert-type scale (Chaudhuri & Holbrook, 2001; Coulter, Price, & Feick, 2003). These items measure either the purchase-related (first two items in Table 2) or attitudinal aspects of brand commitment (later two items in Table 2) (Jacoby & Chestnut, 1978).

Besides the explanatory variables, we included several control variables that could influence brand loyalty: age, gender, country, market share of a brand (the market share ranking that each brand had in each country), type of mobile phone owned (smartphone or not), brand price perception (i.e., perception of the price of a brand relative to an internal reference price, measured on a 7-point scale), brand ownership (yes or no), and product involvement using four items (e.g., Bian & Moutinho, 2011; Petty, Cacioppo, & Schumann, 1983).

Analyses and Results

Measurement Assessment

The validity, unidimensionality, and reliability of the constructs were assessed in two successive stages. Initially, we performed an exploratory factor analysis to assess the underlying factor structure of the 36 brand personality items. Subsequently, we conducted a principal component exploratory factor analysis through a process of successive iterations in order to eliminate items with a low-factor loading for each brand. After a series of iterations, we retained five fully identifiable dimensions comprising 14 traits and conducted a confirmatory factor analysis (CFA) using these traits. Appendix A (available upon request from the authors) presents the result of the exploratory factor analysis applied to all of the brands. Next, we used the CFA to assess the reliability and validity of the multi-item scales for each brand (Hair, Black, Babin, & Anderson, 2010). The CFAs revealed an acceptable fit for each brand: Samsung ($\chi^2_{(231)}=456.10$, p < .001, GFI = .85; CFI = .94, RMSEA = .06), Nokia ($\chi^2_{(231)}=429.74$, p < .001, GFI = .86; CFI = .95, RMSEA = .04), Apple ($\chi^2_{(231)}=463.13$, p < .001, GFI = .86; CFI = .95, RMSEA = .07), and Sony ($\chi^2_{(231)}=452.81$, p < .001, GFI = .88; CFI = .96, RMSEA = .05), and all factor loadings were statistically significant ($p < .001$). Table 2 shows the results of the CFAs and measurement items.

Following this, we examined the convergent validity of the constructs. The average variance extracted (AVE) values were greater than .50 (Bagozzi & Yi, 1988), and the composite reliability of each construct exceeded the .70 threshold. Moreover, the square of the construct's correlations with other factors was less than the AVE of each construct, satisfying discriminant validity (Fornell & Larcker, 1981). Furthermore, in the presence of multiple independent variables (i.e., five dimensions of brand personality), even though the ordinary least squares estimators could be unbiased and consistent, we checked the structural correlations between the five dimensions of brand personality. The unconstrained model was compared with the constrained model in which the correlation between each pair of brand personality dimensions was restricted to equal one (Anderson & Gerbing, 1988). For each brand, a significant chi-square difference was found for each pair of brand personality dimensions (e.g., Samsung's competence vs. excitement, $\chi^2_{(1)}=18.81$, $p < .001$; Apple's sophistication

Table 2
Confirmatory Factor Analysis and Measurement Items

Scales and items (1 = strongly disagree, 7 = strongly agree)	Standardized factor loadings			
	Samsung	Nokia	Apple	Sony
Brand personality – Sincerity				
Sentimental (This mobile phone brand is…)[b]	.85[a]	.90[a]	.86[a]	.88[a]
Small-town	.71	.74	.74	.76
Brand personality – Excitement				
Trendy	.93[a]	.95[a]	.96[a]	.95[a]
Young	.92	.95	.94	.94
Contemporary	.90	.94	.93	.94
Brand personality – Competence				
Corporate	.83[a]	.92[a]	.86[a]	.90[a]
Reliable	.89	.93	.92	.92
Hardworking	.92	.95	.94	.95
Brand personality – Sophistication				
Smooth	.84[a]	.90[a]	.80[a]	.87[a]
Good-looking	.85	.91	.91	.91
Glamorous	.88	.92	.89	.91
Brand personality – Ruggedness				
Tough	.76[a]	.83[a]	.81[a]	.87[a]
Masculine	.85	.92	.88	.91
Rugged	.79	.87	.85	.91
Brand identification				
This brand's successes are my successes	.83[a]	.89[a]	.89[a]	.90[a]
I am very interested in what others think about this brand	.77	.80	.77	.83
When someone praises this brand, it feels like a personal compliment	.93	.95	.95	.96
When I talk about this brand, I usually say "we" rather than "they"	.93	.95	.93	.95
If a story in the media criticized this brand, I would feel embarrassed	.93	.96	.95	.96
When someone criticizes this brand, it feels like a personal insult	.90	.95	.94	.94
Brand Loyalty				
I will buy this brand the next time I buy mobile phone	.87[a]	.92[a]	.93[a]	.93[a]
I intend to keep purchasing this brand	.89	.95	.95	.95
I am committed to this brand	.86	.95	.94	.96
I would be willing to pay a higher price for this brand over other brands	.89	.95	.94	.94

Notes:
[a]Initial loading was fixed to 1 to set the scale of the construct.
[b]Please note that we focus on brand personality at the product category level (not at the product or company level).

vs. ruggedness, $\chi^2_{(1)} = 13.95$, $p < .001$; Nokia's excitement vs. sophistication, $\chi^2_{(1)} = 22.87$, $p < .001$; and Sony's sincerity vs. competence, $\chi^2_{(1)} = 25.12$, $p < .001$). Overall, the measures included in this study satisfied reliability and validity criteria. Table 3 shows the descriptive statistics, correlations, and reliability estimates for each brand (Table 3a presents Samsung and Apple, and Table 3b presents Nokia and Sony).

Lastly, to minimize common method bias in self-reported survey research, we included a common method factor in the model and evaluated each indicator's variance substantively explained by the principal construct and the method factor (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The results in Appendix B (available upon request from the authors) show that the average variance of the constructs' indicator is 0.766, whereas the average method-based variance is 0.007. Given the small magnitude and insignificance of the method variance, we can conclude that the systematic error from the method bias is not a serious concern.

Hypotheses Testing

The hypotheses were tested using a hierarchical moderated regression analysis. Recall that this study employed RBI as a moderating variable. Based on previous studies (Aiken & West, 1991), the variables of brand personality and RBI were mean-centered to mitigate the potential threat of multicollinearity in equations where interaction terms were created. However, the mean-centering technique only reduced the correlation between brand personality terms and the related interaction terms (e.g., "excitement" versus

Table 3a

Descriptive Statistics and Intercorrelations (Samsung and Apple)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Mean	4.20	1.57	2.00	2.33	.74	3.21	4.03	5.03	5.03	4.55	4.22	3.73	-.03	4.83
Standard deviation	1.27	.49	.82	.47	.44	1.23	1.45	1.34	1.26	1.35	1.34	1.69	1.29	1.45
Cronbach's alpha	-	-	-	-	-	.89	.76	.94	.91	.89	.84	.96	-	.93
Composite reliability	-	-	-	-	-	.85	.76	.94	.91	.89	.85	.96	-	.93
Average variance extracted	-	-	-	-	-	.79	.62	.84	.77	.73	.65	.78	-	.77
1. Age		-.15	.03	.05	-.22	-.01	-.04	.03	.05	-.03	-.02	.03	.04	.02
2. Gender	-.15		.04	.02	-.11	.02	-.04	.02	-.01	.01	-.08	-.09	-.02	-.01
3. Country	.03	.04		.00	.03	.00	.09	-.06	.03	.14	.19	.02	-.03	-.04
4. Market share	.05	.05	.87		-.10	.01	.13	.08	.02	.05	.15	.12	.08	.04
5. Smartphone usage	-.22	-.11	.03	-.03		.23	.09	.04	.06	.08	.07	.08	-.02	.04
6. Product involvement	.01	.03	.01	.02	.19		.01	-.01	.02	.03	-.02	.12	.13	.10
7. Sincerity	-.12	-.03	.12	.16	.08	.01		.43	.46	.45	.56	.63	.29	.42
8. Excitement	-.08	.15	.09	.09	.13	.02	.34		.55	.51	.46	.50	.40	.66
9. Competence	-.04	.11	.09	.08	.15	-.01	.38	.51		.48	.49	.52	.45	.69
10. Sophistication	-.12	.11	.23	.17	.16	-.02	.49	.46	.56		.41	.62	.42	.59
11. Ruggedness	-.70	-.01	.18	.22	.08	.01	.40	.45	.46	.50		.52	.27	.46
12. Brand identification	-.06	-.05	.06	.09	.18	.12	.57	.37	.50	.53	.53		.53	.57
13. Relative brand identification	-.09	.04	.04	.06	.14	.11	.29	.50	.53	.50	.32	.62		.49
14. Brand loyalty	-.09	.02	.14	.13	.22	.10	.45	.57	.65	.65	.48	.60	.57	
Mean	4.20	1.57	2.00	.67	.74	3.35	4.11	5.56	5.26	5.01	4.32	3.93	.23	4.79
Standard deviation	1.27	.49	.82	.47	.44	1.43	1.64	1.52	1.51	1.50	1.53	1.83	1.52	1.78
Cronbach's alpha	-	-	-	-	-	.88	.78	.96	.93	.90	.88	.96	-	.97
Composite reliability	-	-	-	-	-	.83	.78	.96	.94	.90	.89	.96	-	.97
Average variance extracted	-	-	-	-	-	.78	.65	.89	.83	.75	.71	.82	-	.88

Notes: Correlations above .05 are significant at $p < .05$ (Samsung above the diagonal; Apple below the diagonal)

"excitement × RBI"), not the correlations between brand personality terms associated with the same RBI term (e.g., "excitement × RBI" versus "competence × RBI"). If all five interaction terms had been entered into the model simultaneously, the high correlations between interaction terms would have overinflated the standard error of regression coefficient estimates and rendered them insignificant. Therefore, in order to test hypotheses with three models (Models 1–3 in Table 4), we used a blockwise hierarchical regression analysis (see Elvira & Cohen, 2001; Sheng, Zhou, & Lessassy, 2013), which incorporated separated interaction terms in multiple models,. All values of the variance inflation factor were well below the cut-off of 10, and the largest one was 2.52 (Neter, Kutner, Wasserman, & Nachtsheim, 1996). Thus, multicollinearity was not a concern in this study.

Table 4 presents the results of hypothesis testing. First, as shown in Tables 4a (for Samsung and Apple) and 4b (for Nokia and Sony), Model 1, which included control variables and main effect terms, accounted for about 50% variance in brand loyalty across brands. Before presenting Model 1, we also confirmed that the model that includes only control variables accounted for less variance in brand loyalty across brands (e.g., for Samsung, 1%; for Nokia, 2%). Specifically, to control country differences, we included dummy variables for country and market shares in our model. The influence of

the country variable on brand loyalty was only significant for Samsung ($b = - 0.09$, $p < .01$), and brand loyalty varied across the three countries only for Samsung. Using ANOVA, we checked the significant difference of Samsung's brand loyalty across countries ($M_{Germany} = 4.85$, $M_{France} = 4.91$, and $M_{UK} = 4.71$, $F(1,1650) = 2.63$, $p < 0.10$). We also included a brand's market share in each country and results indicated that market shares were not significantly associated with brand loyalty for all brands ($|t| < 1.96$). We further conducted a sample-split analysis (by countries) to examine whether the contribution of brand personality was affected by cross-country differences. The results of the sample-split analysis support our findings. A likelihood ratio test indicated that we cannot reject the null hypothesis that the estimates are equal between countries ($p < 0.01$). We also included a dummy variable for smartphone ownership, and the results indicated that smartphone ownership was not significantly associated with brand loyalty (except Apple). Thus, we conclude that our results were not significantly influenced by cross-country differences and smartphone ownership. In addition, we found that price perception of the brands, brand ownership, and product involvement were highly correlated ($\rho s > 0.7$). Because of this, we included only product involvement as one of the situational factors to control exogenous product-specific effects. We found

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Table 3b

Descriptive Statistics and Intercorrelations (Nokia and Sony)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Mean	4.20	1.57	2.00	2.67	.74	3.10	4.14	4.66	4.89	4.39	4.17	3.67	-.11	4.48
Standard deviation	1.27	.49	.82	.47	.44	1.31	1.47	1.48	1.45	1.44	1.45	1.72	1.20	1.61
Cronbach's alpha	-	-	-	-	-	.88	.79	.96	.95	.93	.90	.97	-	.97
Composite reliability	-	-	-	-	-	.85	.80	.96	.95	.93	.90	.97	-	.96
Average variance extracted	-	-	-	-	-	.75	.68	.89	.86	.83	.76	.84	-	.88
1. Age		-.15	.03	-.05	-.22	.01	-.05	.06	..08	.02	-.02	.04	.06	.07
2. Gender	-.15		.04	-.02	-.11	-.02	-.04	.03	.03	-.03	−02	-.09	-.03	-.01
3. Country	.03	.04		.00	.03	.01	.16	.06	.17	.15	.27	.07	.08	.11
4. Market share	-.05	-.05	-.86		.10	.00	-.04	-.01	.06	.03	-.05	-.05	.04	.04
5. Smartphone usage	-.22	-.11	.03	.03		.22	.04	-.01	.02	.04	.03	.04	-.09	-.01
6. Product involvement	.02	-.02	-.01	.01	.20		-.01	.02	-.03	.01	.02	.12	.11	.12
7. Sincerity	-.09	-.06	.06	-.08	.04	-.01		.41	.38	.57	.43	.61	.31	.47
8. Excitement	-.02	.03	-.06	.07	.03	.01	.54		.49	.51	.40	.54	.44	.64
9. Competence	.01	.01	-.02	.06	.04	.02	.47	.45		.43	.41	.49	.46	.64
10. Sophistication	−03	-.01	.04	-.01	.06	.02	.42	.49	.48		.31	.62	.40	.60
11. Ruggedness	-.05	-.03	.12	-.14	.02	-.01	.34	.35	.37	.48		.53	.34	.48
12. Brand identification	.04	-.09	.07	-.09	.04	.11	.43	.21	.21	.33	.36		.55	.58
13. Relative brand identification	.01	-.01	-.11	.13	-.06	.11	.28	.41	.44	.39	.29	.55		.52
14. Brand loyalty	.02	.00	.00	.02	.01	.12	.48	.64	.64	.62	.47	.29	.47	
Mean	4.20	1.57	2.00	.33	.74	3.25	4.11	4.79	4.77	4.48	4.23	3.67	-.10	4.44
Standard deviation	1.27	.49	.82	.47	.44	1.12	1.44	1.40	1.36	1.38	1.42	1.73	1.24	1.54
Cronbach's alpha	-	-	-	-	-	.90	.80	.96	.95	.93	.93	.97	-	.97
Composite reliability	-	-	-	-	-	.86	.81	.96	.95	.93	.92	.97	-	.97
Average variance extracted	-	-	-	-	-	.77	.67	.89	.86	.81	.80	.85	-	.89

Notes: Correlations above .05 are significant at $p < .05$ (Nokia above the diagonal; Sony below the diagonal)

consistent results when using price perception or brand ownership instead of product involvement.

H1 predicted that the dimensions of brand personality that positively influence brand loyalty would vary across brands. Model 1 indicated the following results: sincerity (only for Sony: $t = 2.01$, $p < .05$), excitement (all brands except for Apple; Samsung: $t = 8.89$, $p < .001$; Nokia: $t = 6.31$, $p < .001$; and Sony: $t = 4.49$, $p < .001$), competence (for all brands; Samsung: $t = 12.01$, $p < .001$; Apple: $t = 8.36$, $p < .001$; Nokia: $t = 8.03$, $p < .001$; and Sony: $t = 8.23$, $p < .001$), sophistication (for all brands; Samsung: $t = 2.38$, $p < .05$; Apple: $t = 6.94$, $p < .001$; Nokia: $t = 2.93$, $p < .01$; and Sony: $t = 3.58$, $p < .001$), and ruggedness (Samsung: $t = 2.20$, $p < .05$; and Apple: $t = 2.09$, $p < .05$) were positively and significantly related to brand loyalty. These findings indicate that exciting, competent, and sophisticated brand personalities are particularly important for the European mobile phone market because high-tech mobile phones enable consumers to experience exciting games, various PIMS (personal information management system), and easy-to-use user interfaces. In particular, the two most significant dimensions of brand personality were slightly different across brands. Excitement and competence more significantly predicted consumer brand loyalty for Samsung, Nokia, and Sony, but competence and sophistication more significantly

predicted brand loyalty for Apple. For each brand, Samsung's loyalty was influenced by excitement ($p < .001$), competence ($p < .001$), sophistication ($p < .05$), and ruggedness ($p < .05$), but not for sincerity. Apple's loyalty was from competence ($p < .001$), sophistication ($p < .001$), and ruggedness ($p < .05$), but not sincerity and excitement. Brand loyalty of Nokia was influenced by excitement ($p < .001$), competence ($p < .001$), and sophistication ($p < .01$) and not sincerity and ruggedness, and that of Sony was by sincerity ($p < .05$), excitement ($p < .001$), competence ($p < .001$), and sophistication ($p < .01$) with the exception of ruggedness. Further, our results indicate that the coefficients of brand personality across brands have different statistical significance. For example, the impact of sophistication on Samsung's loyalty and that of Apple's loyalty have different levels of significance ($p < .05$ vs. $p < .001$, respectively, t-value of this difference is −6.52). The influence of excitement on Nokia's loyalty and that of Sony's loyalty also have different levels of significance ($p < .01$ vs. $p < .001$, respectively, t-value of this difference is −4.32). Together, these findings provide evidence that the dimensions of brand personality that positively influence brand loyalty *vary across brands*. Hence, we find support for *H1*.

H2 posited that RBI would positively influence brand loyalty. As all Models in each brand, results revealed that

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Table 4a

Blockwise Hierarchical Moderated Regression Results (Samsung and Apple)

Variables	Samsung (N = 1651)						Apple (N = 1651)					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	b	t-value	b	t-value	b	t-value	b	t-value	b	t-value	b	t-value
Control												
Age	-.01	-.28	-.01	-.36	-.01	-.36	-.02	-.68	-.02	-.99	-.02	-.83
Gender	-.02	-.34	-.02	-.33	-.02	-.33	-.12	−1.94	-.13	−2.01*	-.13	−2.03*
Country	-.09	−3.01**	-.10	−3.13**	-.10	−3.13**	-.01	-.07	.02	.25	-.01	-.04
Market share	-.05	−1.01	-.05	−1.02	-.05	−1.02	.15	1.15	.14	1.05	.16	1.19
Smartphone (dummy)	-.01	-.02	.01	.03	.01	.03	.33	4.69***	.34	4.60***	.33	4.75***
Product involvement	.04	.63	.03	.52	.03	.53	.05	1.94*	.05	1.63	.05	1.62
Main effect												
Brand personality												
Sincerity	.04	.15	.03	1.56	.03	1.56	.05	1.75	.06	1.34	.05	1.64
Excitement	.27	8.89***	.26	8.84**	.26	8.84**	-.02	-.61	-.02	-.84	-.03	-.81
Competence	.37	12.01***	.37	11.70***	.37	11.70***	.33	8.36***	.31	8.07***	.32	8.20***
Sophistication	.08	2.38*	.07	2.41*	.07	2.41*	.28	6.94***	.27	6.81***	.28	6.93***
Ruggedness	.06	2.20*	.05	2.11*	.05	2.11*	.07	2.09*	.07	2.13*	.07	2.21*
Relative brand identification (RBI)	.21	9.88***	.21	9.95***	.21	9.95***	.31	13.27***	.31	13.27***	.31	13.11***
Interactions												
Sincerity × RBI												
Excitement × RBI			.03	2.09**								
Competence × RBI					.04	2.98**			.04	3.98***		
Sophistication × RBI											.02	2.00**
Ruggedness × RBI												
R^2	.53		.56		.57		.51		.57		.55	
ΔR^2			.03		.04				.06		.04	
ΔF			4.95**		8.90***				15.91***		5.95**	

Notes: Unstandardized coefficient.

*$p < .05$.

**$p < .01$.

***$p < .001$. The models employed the interaction terms for other dimensions of brand personality (e.g., sophistication and ruggedness for Samsung, and ruggedness for Apple) and RBI also indicates that there are marginally significant moderating effects on brand loyalty, but are not reported for brevity. Details are available upon request.

the extent of identification with a given brand, relative to other brands, was positively and significantly associated with brand loyalty for all brands (Samsung: $t = 9.88$, $p < .001$; Apple: $t = 13.27$, $p < .001$; Nokia: $t = 12.50$, $p < .001$; and Sony: $t = 10.35$, $p < .001$). Thus, *H2* was confirmed.

As shown in Tables 4a and 4b (Model 2 and 3), the results indicate the moderating effects of RBI. As mentioned earlier, the variables in the interaction terms were mean-centered to mitigate the potential threat of multicollinearity. However, mean-centering only reduced the correlations between main terms and the related interaction terms, not the correlations between the interaction terms. If all interaction terms associated with the dimensions of brand personality had been entered into the model simultaneously, the high correlations between the interaction terms would

have overinflated the standard error of the regression coefficient estimates and would have rendered them insignificant. Indeed, when we tested in a single model, the variance inflation factor was 13.21, which is greater than the commonly used cut-off value of 10 due to the high correlation between the interaction terms (e.g., for Samsung "Excitement × RBI" and "Competence × RBI"). Thus, we employed a blockwise hierarchical regression and incorporated separated interaction terms in multiple models. The addition of the interaction term, which was associated with the most significant dimensions of brand personality in Model 2 and Model 3, significantly increased the R-square values, compared with Model 1, for all brands (Samsung, $\Delta R^2 = .03$, $F_{(1,1638)} = 4.95$, $p < .01$; $\Delta R^2 = .04$, $F_{(1,1638)} = 8.90$, $p < .001$, respectively; Apple, $\Delta R^2 = .06$, $F_{(1,1638)} = 15.91$, $p < .001$; $\Delta R^2 = .04$, $F_{(1,1638)} = 5.95$, $p < .01$, respectively; fNokia,

Table 4b

Blockwise Hierarchical Moderated Regression Results (Nokia and Sony)

	Nokia ($N = 1651$)						Sony ($N = 1651$)					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
Variables	b	t-value	b	t-value	b	t-value	b	t-value	b	t-value	b	t-value
Control												
Age	.02	1.01	.02	1.02	.02	1.00	.04	1.59	.03	1.47	.03	1.55
Gender	-.02	-.36	-.01	-.32	-.02	-.36	.01	.17	.01	.17	.01	.18
Country	.02	.50	.02	.51	.01	.49	.06	.86	.05	.82	.06	.84
Market share	.05	.78	.04	.71	.05	.81	.01	.12	.01	.12	.01	.12
Smartphone (dummy)	.00	.00	.00	.00	.00	.00	-.01	-.16	-.01	-.22	-.01	-.17
Product involvement	.03	.57	.03	.52	.03	.54	.05	1.01	.04	.89	.05	.85
Main effect												
Brand personality												
Sincerity	.03	.89	.03	.86	.03	.94	.06	2.01*	.07	2.20*	.06	2.00*
Excitement	.24	6.31***	.24	6.33***	.24	6.84**	.18	4.49***	.17	4.37***	.18	4.47***
Competence	.28	8.03***	.28	8.08***	.27	8.70***	.34	8.23***	.33	8.15***	.34	8.21***
Sophistication	.12	2.93**	.13	2.95**	.12	2.92**	.15	3.58**	.15	3.58**	.14	3.59**
Ruggedness	.01	.40	.01	.31	.01	.41	.03	.84	.02	.80	.03	.83
Relative brand identification (RBI)	.33	12.50***	.33	12.51***	.33	12.50***	.25	10.35***	.25	10.36***	.25	10.35***
Interactions												
Sincerity × RBI												
Excitement × RBI			.02	1.94*					.02	1.69*		
Competence × RBI					.03	2.85**					.03	2.15**
Sophistication × RBI												
Ruggedness × RBI												
R^2		.51		.53		.54		.50		.52		.54
ΔR^2				.02		.03				.02		.04
ΔF				3.32**		5.12***				2.84*		6.23***

Notes: Unstandardized coefficient.

*$p < .05$.

**$p < .01$.

***$p < .001$. The models employed the interaction terms for other dimensions of brand personality (e.g., sophistication for Nokia, and sincerity and sophistication for Sony) and RBI also indicates that there are marginally significant moderating effects on brand loyalty, but are not reported for brevity. Details are available upon request.

$\Delta R^2 = .02$, $F_{(1,1638)} = 3.32$, $p < .01$; $\Delta R^2 = .03$, $F_{(1,1638)} = 5.12$, $p < .001$, respectively; and fSony, $\Delta R^2 = .02$, $F_{(1,1638)} = 2.84$, $p < .05$; $\Delta R^2 = .04$, $F_{(1,1638)} = 6.23$, $p < .001$, respectively). These results suggest that relative brand identification significantly and positively moderated the influence of brand personalities on brand loyalty.

To clarify the moderating effect of relative brand identification, we conducted additional analyses by creating two dichotomous independent variables (i.e., the dimensions of brand personality and RBI) and by examining their interaction effects on brand loyalty. Following Aiken and West's (1991) guidelines, the low and high levels of the independent variables were one standard deviation below and above their means. Consistent with the above results, Figure 1 shows that higher/lower RBI and brand personality dimensions had positive interaction effects on brand loyalty across brands. Based on these findings, we can conclude that
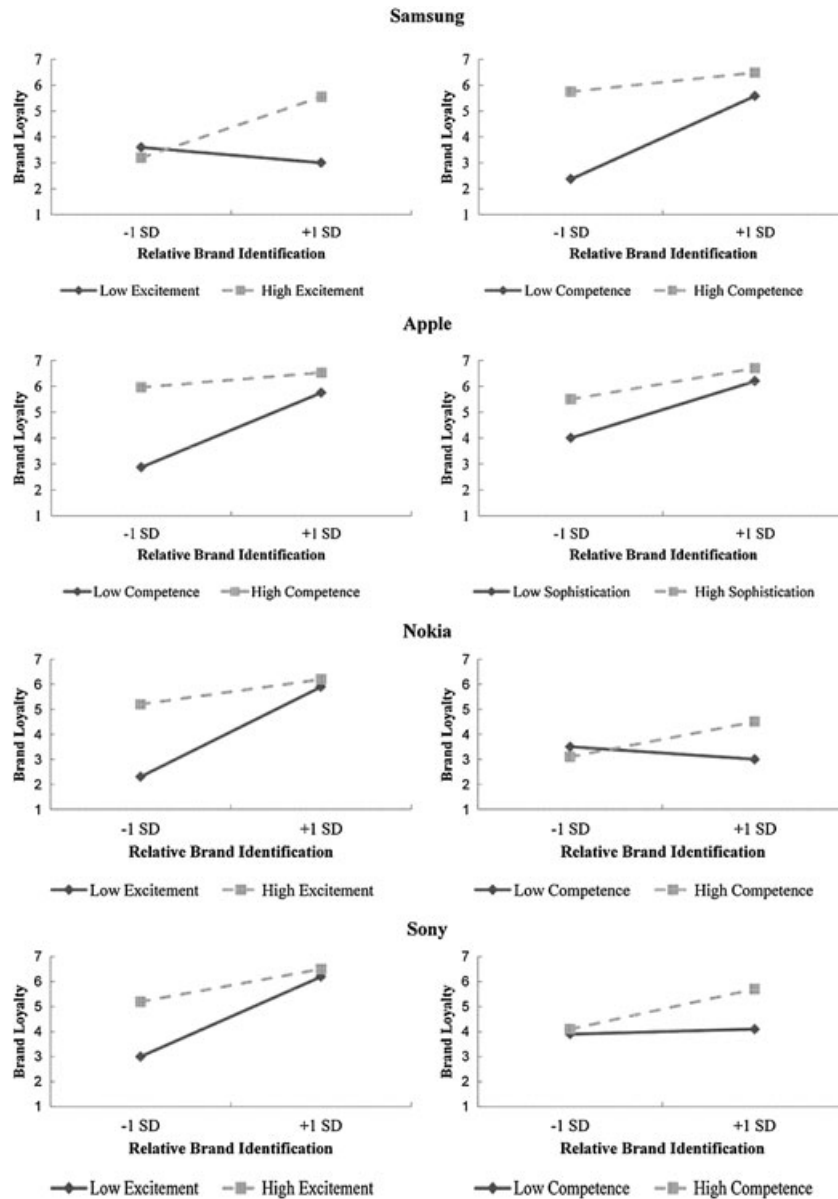
relative brand identification positively moderated the influence of brand personalities on brand loyalty. Consequently, *H3* was supported.

Discussion

Summary

This study investigated the impact of various dimensions of brand personality on consumer loyalty for multiple brands in the same product category, as well as the moderating role of relative brand identification. Using a sample of 1,651 respondents from the UK, France, and Germany, we found that the dimensions of brand personality that are positively associated with consumer brand loyalty vary across

Figure 1. Graphical interpretation of significant moderating effects

brands in the mobile phone category. We also found that relative brand identification not only positively affects consumer loyalty, it also moderates the relationship between brand personality and consumer loyalty.

Contributions to Scholarship

The findings of this study contribute to the literature on brand personality, brand identification, and brand loyalty. First, we considered and empirically tested the influence of

Aaker's (1997) five dimensions of brand personality on brand loyalty across multiple brands in the European mobile phone market. Although considerable research has argued that companies should develop a distinct, unique brand personality (Keller, 1993; Phau & Lau, 2000), little empirical research has directly tested whether consumers are influenced by different dimensions of brand personality across brands. However, the present research compares various dimensions of brand personality across multiple brands in the mobile phone category and empirically testes whether

distinct dimensions of brand personality influence consumer behaviour. Consistent with prior research (Hosanya et al., 2006; Keller, 1998; Kim et al., 2001), we found that brand personality is positively related to brand loyalty. More importantly, our results show that the dimensions of brand personality that affect consumers vary across multiple brands. For example, sincerity was positively associated only with the brand loyalty of Sony, and ruggedness was positively associated only with that of Samsung and Apple. According to our results, among the five dimensions of brand personality, excitement, competence, and sophistication were found to be the most influential factors affecting consumers' brand loyalty in the European mobile phone market. Such empirical evidence complements previous research (Aaker, 1999; Ramaseshan & Tsao, 2007; Swaminathan et al., 2009) by demonstrating the importance of understanding various dimensions of brand personality and their roles in consumer behaviour.

Besides brand personality, this study examines another important determinant of brand loyalty: relative brand identification. Although previous studies on brand identification have mostly focused on the bilateral relationship between a consumer and a brand isolated from other brands (Curlo & Chamblee, 1998; Kuenzel & Halliday, 2008), this study investigates relative brand identification by considering how deeply a consumer identifies a given brand, *relative to* other brands. In the competitive market where few brands compete with each other, we hypothesized that relative brand identification would be a more powerful explanatory factor predicting consumer loyalty. In support of this hypothesis, we found that the more one identifies with a given brand compared to other brands, the more likely consumers are to be loyal to the brand. Furthermore, our results indicate that relative brand identification has a moderating effect on the relationship between brand personalities and brand loyalty. Extending consumer research on brand personality and brand identification (Ahearne et al., 2005; Park et al., 2010; Swaminathan et al., 2009), our results suggest that brand loyalty is positively influenced by brand personality with a greater relative brand identification. Thus, these findings provide a unique insight into how the influence of brand personality on brand loyalty can be amplified by relative brand identification, especially in the European mobile phone market.

Applied Implications

The findings of this study offer practical implications for managing brands and customer relationships. First, our results clearly demonstrate the importance of considering various dimensions of brand personality in order to enhance brand loyalty. Most research on brand personality has used a single brand (e.g., Freling & Forbes, 2005) or considered only a few selected dimensions of brand personality (e.g., sincerity and excitement, see Swaminathan et al., 2009). This limitation in the literature may lead companies

to blindly imitate competitors' brand personality (Zhiming et al., 2013) without understanding what dimensions of brand personality affect their customers. However, the present research shows that the dimensions of brand personality that significantly influence consumer loyalty differ across brands and even those in the same product category. Our findings can help managers gauge the impact of their brand's personality on brand loyalty and compare it with the effect of competing brands' personality. This will tell marketers whether they have successfully communicated with consumers about their brand and developed a unique brand personality. By focusing on the unique brand personality, managers can enable a brand to differentiate itself from its competitors and boost consumer awareness. Understanding to what extent their brand personality overlaps with competitors' will enable marketers to identify what brand can be considered similar to their brand in terms of brand personality for consumers. If a competitors' brand shares similar brand personality, managers may want to strengthen the association between their brand and its personality. Thus, our study findings can help mangers formulate a communication strategy with particular dimensions of brand personality that matter for their customers to reap the desired benefits of developing a brand personality.

This study further reveals that brand personality explains brand loyalty better than an objective, market-based index, such as market share. Facing dynamic competition, firms often miss the opportunities to market their apparent features of brand personality compared to other brands. For example, a recent news article mentions that Samsung is succeeding in closing the "coolness gap" with Apple, suggesting that intense competition in the mobile phone market has led to a major flip of brand personality (Sherr & Ramstad, 2013). Supporting this, we found that the excitement dimension of brand personality (the dimension that is most similar to "coolness," which is mentioned in the news article above) was positively associated with an increase in brand loyalty for Samsung but not for Apple. Brand managers may want to consider ways to capture the distinguishable dimensions of brand personality and characterize them in a marketing strategy. Second, this study shows the significant role played by relative brand identification in the presence of multiple brands in a competitive market. The implications are clear that managers should more accurately identify consumers' idiosyncratic behaviours, particularly brand identification, through market research to capture the differentia between relative brand identification and existing indexes of consumers' loyalty. For example, consumers might have a meaningful social relationship with a brand, compared to its competitors, by engaging in brand-sponsored activities, which could lead to them becoming loyal to the brand (Bhattacharya & Sen, 2003). Lastly, this study offers unique implications regarding the dimensions of brand personality and consumers' relative brand identification. Results indicate that relative brand identification

strengthens the positive association between the distinct dimensions of brand personality and brand loyalty. For example, the high relative brand identification of Samsung, compared to Apple, increased the impact of the competence dimension of brand personality on brand loyalty. However, the high relative brand identification of Apple, compared to Samsung, increased the impact of sophistication. This clearly indicates that the impact of brand personalities on brand loyalty is positively moderated by relative brand identification. Thus, when managers make marketing decisions using brand personality, they should compare the extent to which consumers identify themselves with their brands relative to their competitors' brands. For instance, because those who identify with a certain brand are more likely to engage in activities promoting the brand (Bhattacharya & Sen, 2003), companies may want to involve consumers in blogging and talking about their brands.

Limitations and Future Research Directions

Although the findings provide meaningful implications, this study has some limitations and offers several directions for future research. First, the present study examines only one product category (i.e., mobile phone). We assumed that consumers would have direct or indirect experience with several brands of mobile phones and thus chose the mobile phone category to test our hypotheses. Given the pervasiveness of the product category used in this study and the empirical support for the proposed hypotheses, we expect the results to hold for many other product categories. Nevertheless, because we used real brands, there could be a possible influence of the brands and product category used in this study. Thus, testing our questions in a more controlled context or replicating the results in another category would enhance the generalizability of our results and facilitate theoretical development (Pham, 2013). For example, distinct dimensions of brand personality in experiential product categories (e.g., cosmetics) and low-involvement product categories (e.g., toothpastes) may be anchored on other dimensions (e.g., sophistication in cosmetics) compared to that of mobile phones (e.g., competence and excitement). Also, consumers may form strong, concrete brand personality when a brand offers a narrow range of products. It would be interesting for future research to examine how the range of products affects consumer perception of brand personality (e.g., strength or clarity of brand personality). Second, the present study employed cross-sectional and self-reported measures. The data were collected from three Western European countries, and, given the cross-sectional study design, cross-country differences (e.g., cultural difference, a country's policy, etc.) may pose some limitation (see Aaker et al., 2001; Rojas-Méndez, Murphy, & Papadopoulos, 2011). We have attempted to overcome the limitation by recruiting a large sample and employing multinational brands and by controlling country-specific factors (e.g., market share). Nevertheless, future longitudinal or intercontinental studies would not only advance the understanding of the role of brand personality and brand identification in explaining consumer behaviour, but also ensure the generalizability of our findings. Finally, it is possible that a common method variance issue exists in the interactive influence of brand personalities and RBI on brand loyalty. Although the statistical analyses employed in this study assure that common method bias is not likely to account for the interaction effects (as indicated in Appendix B), the possibility of such bias cannot be completely ruled out.

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