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Sustainable Customer Retention: A Study on Social Media Marketing Activities, Brand Equity and Smartphone Purchase Intention among Generation Y

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Abstract

This study looked into the social media marketing activities (customization, electronic word of mouth, entertainment, information richness, interactions and trendiness) for a mobile brand that led to consumer-level brand equity, relationship equity and value equity. These consumer-level equities facilitate generating the intention to purchase a mobile brand. This study adopted a cross-sectional design and collected quantitative rata from a total of 288 respondents through an online survey. This study used partial least squares structural equation modelling to test the associations hypothesized. The outcomes indicated that electronic word of mouth, information richness and trendiness significantly influenced brand and relationship equities among the study sample. Meanwhile, customization, electronic word of mouth and information richness significantly influenced mobile value equity. Additionally, brand, relationship and value equities significantly influenced the intention to purchase a mobile brand. Brand equity of the mobile significantly mediated the relationship between trendiness and purchase intention. Similarly, relationship equity significantly mediated the correlations of information richness and trendiness with purchase intention. Customization and electronic word of mouth were significantly mediated by value equity for the intention to purchase a mobile brand. Apparently, brand and relationship equities emerged as the most significant contributors to purchasing a mobile brand.

Key Words

Social Media Marketing Activities, Brand Equity, Relationship Equity, Value Equity, Purchase Intention, Generation Y

Introduction

The advent of information technology (IT) has enabled billions of people to connect in real-time via social media (SM). The SM offers unique opportunities to its users to perform multiple activities while staying at home (Sano, 2014). SM as a marketing tool has been vastly adopted by numerous international and local brands (Wang et al., 2019). Web2 empowers SM users to communicate in real time and use SM as an effective marketing tool to engage with consumers (Seo & Park, 2018). Two-way communication empowers the marketing of products and services while encouraging consumers to interactively engage in timely communication with businesses offering products and services (Kim & Lee, 2019).

Firms interactively engage in marketing activities to gain customer attention and achieve customer satisfaction (Nawi et al., 2020). Business firms increasingly use SM platforms and invest heavily to enhance brand awareness amongst consumers via social media marketing activities (SMMAs) (Kim & Ko, 2016). SMMAs offer interactive, playful and entertaining content to fascinate and maintain consumers (Park & Kim, 2014). Firms tend to customize SMMAs to attract consumers and actively interact by offering information-rich content and creating positive word of mouth (WOM) for the firm offerings (Lemon et al., 2015).

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The SM offers a valuable platform to introduce innovative technology products, including mobile phones and other smart gadgets. Besides enriching marketing activities, communication efforts are less via SM than traditional marketing channels (Kim & Ko, 2010). SMMAs facilitate engagement between firms and customers in creating a brand image and brand awareness, which generates a strong relationship with the firm while empowering the value of consciousness among existing and prospective customers (Kim et al., 2008; Park & Kim, 2014).

The thriving social media marketing (SMM) industry and the academic literature have emphasized the popularity of SMMAs. Notably, SMMAs have drawn considerable attention from scholars and business firms, mainly because SMMAs empower firms to build effective and efficient interactions (INTs) with a large community of customers (Wang et al., 2019). Furthermore, SMMAs have displayed efficacy in retaining and increasing customers' purchase attitudes (Seo & Park, 2018). SMMAs effectively engage the customers to achieve brand, relationship and value equity (VEQ). As SMMAs enrich the customer experience, they become more convenient, entertaining and interactive based on prevailing trends (Sano, 2014; Wang et al., 2019).

Approximately 27 million Malaysians are active internet users, with a projection of 30 million internet users in Malaysia by the end of 2023 (Internet World Stats, 2020). Malaysians topped the ranking list in the Southeast Asia region for purchasing online and making online purchases annually at 40% (Kemp & Moey, 2019). The use of SM for business recorded an annual growth rate of 20% (Statista, 2020). After all, it is common for millennials or Generation Y to spend the majority of their time on SM sites for shopping and daily leisure activities (Bilgihan et al., 2014).

The pandemic of the novel coronavirus illness 2019 (COVID-19) has limited mobility, resulting in an increase in the use of SM for purchasing. All shopping activities in Malaysia are prohibited due to the tight execution of the movement control order (MCO). Consumers benefit from online shopping platforms and delivery services, which have become a viable alternative to traditional shopping. Changes in global economic and social situations have prompted changes in the creation and implementation of marketing plans that include more business-to-consumer operations via SMMAs (Nawi et al., 2020).

The current study's objectives are as follows: (a) to investigate the influence of SMMAs, specifically customization (CTM), electronic word of mouth (EWM), entertainment, information richness (INF), interaction (INT) and trendiness (TND) on brand equity (BEQ), relationship equity (REQ) and VEQ; (b) to estimate the influence of BEQ, REQ and VEQ on online mobile phone purchase intention (PIN) and (c) to examine the influence of BEQ, REQ and VEQ on online mobile phone PIN.

SMMAs have become an essential part of marketing strategies, and the exploration of SMMAs benefits the relevant firms in their focus and development of SMMAs, thus harnessing customers' technology PINs. The current study contributed to the much-expanding knowledge pertaining to SMMAs by assessing customer-level equities that led to online PIN. To the best of the authors' knowledge, the study served as the first to incorporate six types of SMMAs adopted by firms to nurture BEQ, REQ and VEQ at the customer level. The current study also explored the mediating roles of all three equities on customers' PINs. Through the adoption of SMMAs, firms need to concentrate on REQ as the most significant contributor to the formation of technology PIN.

The following section summarizes the research methodology. The subsequent section discusses the relevant literature and the development of hypotheses for the research work. Following that, the study outcomes are reported. The discussion and conclusion of this research work are presented in the final section.

Literature Review

The SM has been increasingly utilized to promote products and services. It offers a unique marketplace where user-generated content is used to market products and services (Felix et al., 2016). Both sellers and buyers can interact freely and exchange relevant information about products and services via the SM platform (Chen & Lin, 2019). Besides, SMM offers a low-cost alternative to traditional marketing tools. Consumers may develop different levels of equities from the marketing activities to attract and engage customers. The main objectives of marketing strategies are to deliver brand, relationship and VEQs to their customers.

Brand Equity

Brand equity refers to the level of attractiveness a consumer feels towards a brand name or symbol as perceived worth transfers to prospective consumers (Godey et al., 2016). It rests on brand awareness and image in the consumer's mind (Zhang et al., 2015). Consumers of a specific brand develop unique perceptions to distinguish their favourite brand from others on the basis of the value derived from that particular brand (Aakar, 2009). Brand awareness helps retain the brand in consumers' minds and empowers consumers to identify the specific brand (Zhang et al., 2015). It leads to building a brand image in consumers' minds and placing it as the preferred brand (Seo & Park, 2018). The brand image leads to brand acceptance as a consumer has favourable sensory consideration towards the specific brand. Brand equity denotes the perceived brand value and worth in the consumers' minds based on the brand's specific properties.

Relationship Equity

Great brand title and VEQ are inadequate to retain a brand amidst consumers. Building a strong relationship with customers ensures a long-term business–customer association (Zhang et al., 2014). Relationship equity narrates constructing a healthy relationship between a firm and customers (Kim & Ko, 2016) that goes beyond the firm's traditional objective and subjective assessments of consumer cognizance (Seo & Park, 2018). For consumers, REQ augments with the introduction of loyalty programmes, community-building activities and special acknowledgment given to consumers (Zhang et al., 2014).

Value Equity

Consumers are more interested in the utility or the substance a product or service carries. Value equity is the consumer's objective assessment of the product or service's utility or worth as expected by potential customers (Kim & Ko, 2016). A consumer significantly values a product or a service by referring to price, quality, convenience and packing (Zhang et al., 2015). A consumer drives value from the product or service price, as price signifies what a customer gains in return for the money paid for the firm offering (Kim et al., 2008). Quality aspects of the product or services include a firm's physical and non-physical attributes that improve consumer value (Nawi et al., 2020). Convenience generates both money and non-money utilities for consumers from purchasing the product or service.

Factors Affecting Brand, Relationship and Value Equities of a Mobile Phone Brand

The five aspects of SMMs, as outlined by Kim and Ko (2016), are CTM, entertainment, INT, TND and EWM. Information-rich media content also facilitates building a positive customer attitude towards firm offerings.

Customization

Customization denotes developing users' preferred content and attributes to attract customers (Sano, 2014). Marketing via SM differs from marketing using conventional marketing channels, and the SM empowers firms to respond to customer demands to generate user-preferred content (Kim & Ko, 2016). User-generated response optimizes SM CTM in promoting brand image, instilling brand loyalty amidst consumers (Sano, 2014). Kim and Lee (2019) advocated that CTM perception influenced brand-level equity among young consumers. Nawi et al. (2020) found that SM CTM had significantly influenced BEQ, REQ and VEQs among Malaysian millennials. The above discussion leads to the following hypotheses:

H_{1a}: Social media customization *positively affects brand equity for mobile to shop online among Malaysian youth.*

H_{2a}: Social media customization positively *affects the relationship equity for mobile shoppers among Malaysian youth*.

H_{3a}: Social media customization *positively affects the value equity for mobile to shop online among Malaysian youth.*

Electronic Word of Mouth

Consumers tend to comment and talk about the products or services they purchase (Lemon et al., 2001). Consumers' positive experiences of the products or services are turned into debates, talks and narrations (Nawi et al., 2020). The SM empowers consumers to share their experiences with other people via EWM (Yan et al., 2016). Consumer-generated e-content generates awareness and positive assessment of the products or services in managing apprehensions and anxiety experienced by consumers. By doing so, consumers achieve brand association and brand-level equities (Seo & Park, 2018). Kim and Lee (2019) asserted that the perception of EWM had influenced brand-level equity among young consumers. As such, the following are hypothesized:

H_{1b}: Social media-based electronic word of mouth *positively affects brand equity for mobile to shop online among Malaysian youth.*

H_{2b}: Social media-based electronic word of mouth positively *affects the relationship equity for mobile shoppers among Malaysian youth*.

H_{3b}: Social media-based electronic word of mouth *positively affects the value equity for mobile to shop online among Malaysian youth.*

Entertainment

The SM augments the users' experiences with playfulness and pleasure (Heinonen, 2011). In SM, users spontaneously seek entertainment and amusement, thus causing the media users to take an active interest in SM content (Wang et al., 2019). More firms have begun adopting SM to promote products and services by infusing pleasurable and entertainment-driven content (Kim & Ko, 2016). Such entertainment-driven content impulses SM users to engage with other SM communities, promote positive emotions towards the products or services and build a long-term relationship with the brand (Godey et al., 2016). Entertainment-driven SM content has been reported to significantly affect customer VEQ among young Malaysian consumers (Nawi et al., 2020). Kim and Lee (2019) discovered that the perception of entertainment influenced brand-level equity among young consumers. Considering the above discussion, the following are proposed:

H_{1c}: Social media-based entertainment *positively affects brand equity for mobile to shop online among Malaysian youth.*

H_{2c}: Social media-based entertainment *positively affects the relationship equity for mobile shoppers among Malaysian youth.*

H_{3c}: Social media-based entertainment *positively affects the value equity for mobile to shop online among Malaysian youth*.

Information Richness

A robust message creates an impact. Information-rich marketing content provides all answers to the consumers beforehand (Heininen, 2011). Information richness refers to the quality of the media message with every ingredient and detail for a potential consumer, seeking further information, apart from helping consumers to understand and extract the gist of the marketing message (Dennis et al., 1999). The SM-based marketing campaigns are information-rich and attempt to answer all queries highlighted by consumers (Felix et al., 2016). With that, the following are hypothesized:

H_{1d}: Social media-based information richness *positively affects brand equity for mobile to shop online among Malaysian youth.*

H_{2d}: Social media-based information richness *positively affects the relationship equity for mobile shoppers among Malaysian youth*.

H_{3d}: Social media-based information richness *positively affects the value equity for mobile to shop online among Malaysian youth.*

Interaction

The SM offers a unique platform for its users to interact, be quick involvement, and honestly provide opinions to the firms (Chen & Lin, 2019). The INT reflects the promise of SMMAs (Heinonen, 2011). It enables SM consumers to share opinions and aid each other in resolving concerns (Zhang et al., 2014). Significantly, SM managers simplify consumers' brand experiences and ensure that the offering generates a satisfying and enjoyable experience. User-generated content about the products or services depicts customer–brand relationships and brand satisfaction (Park & Kim, 2014). The SM empowers firms to readily inform the customers and easily win customer trust (Sano, 2014). Kim et al. (2019) found that INT perception had affected brand-level equity among young consumers. Hence, the following hypotheses are proposed:

H_{1e}: Social media-based interaction *positively affects brand equity for mobile to shop online among Malaysian youth.*

H_{2e}: Social media-based interaction *positively affects the relationship equity for mobile shoppers among Malaysian youth.*

H_{3e}: Social media-based interaction *positively affects the value equity for mobile to shop online among Malaysian youth.*

Trendiness

The present firms are willing to construct and track social trends (Park & Kim, 2014). Apparently, SMMAs allow firms to cultivate trends to increase customer satisfaction (Nawi et al., 2020). The prompt responses offered in SM describe timeliness besides nurturing prevalent trends (Heinonen, 2011). New information essentially reflects prevailing trends (Sano, 2014). Trendiness denotes the ability of a firm to spread and cover the most relevant information in SM about its offering, which leads to pre-purchase information and serves as an inspiration to harness the prevailing acceptability of brand values combined in brand offering (Kim & Lee, 2019). Nawi et al. (2020) discovered that the perception of TND had influenced brand-level equity among young Malaysian consumers. With that, the following hypotheses are proposed:

H_{1f}: Social media-based trendiness *positively affects brand equity for mobile to shop online among Malaysian youth.*

H_{2f}: Social media-based trendiness *positively affects the relationship equity for mobile to shop online among Malaysian youth*.

H_{3f}: Social media-based trendiness *positively affects the value equity for mobile to shop online among Malaysian youth.*

Factors Affecting Mobile Online Purchase Intention

Purchase Intention

Purchase intention refers to a consumer's likelihood of purchasing in the future. Since it is expressed as a customer's will to promise specific future consumption activity, many studies have employed PIN to estimate future sales (Sano, 2014; Wang et al., 2019). Comprehending consumers' purchasing behaviour is integral for attracting and retaining their customers (Kim & Ko, 2010). Prior studies have reported that PIN is strongly related to the attitude and preference of customers towards a brand or a product (Seo & Kim, 2003). As customer relationship is built on attitude towards a brand, PIN is expected to influence such a relationship.

Brand Equity

The consumer-level BEQ sparks brand awareness and a particular brand image to highlight consumers' perception towards a brand (Kim & Hyun, 2011). Brand equity promotes positive mental perception in the consumers' minds, thus leading to the intention to purchase (Kim et al., 2008). The emergence of BEQ may be translated into the

formation of brand PIN (Wang et al., 2019). The above discussion prompts the following hypothesis:

H_{4a}: Brand equity *positively affects the intention to purchase a mobile brand among Malaysian youth.*

Relationship Equity

Notably, firms constantly work hard to build a strong relationship with their customers (Brodie et al., 2003). Customer-level identification with a firm's offering denotes both objective and subjective assessments to continue the relationship with the firm's offering (Heinonen, 2011). A positive assessment of the relationship with the firm's offering may lead to re-purchase intention in the future (Aakar, 2009). The above-cited evidence leads to the following hypothesis:

H_{4b}: Relationship equity *positively affects the intention to purchase a mobile brand among Malaysian youth.*

Value Equity

Customers always have a particular set of benefits that drive them to purchase goods or services (Seo & Kim, 2003). Value equity estimates the value of benefits in terms of price advantages, product quality and convenience attained from purchasing the product or service (Lemon et al., 2001). Positive VEQ for customers builds the intention to purchase goods or services in the future. Upon considering the above discussion, the following hypothesis is proposed:

H_{4c}: Value equity *positively affects the intention to purchase a mobile brand among Malaysian youth.*

Mediational Effects

The increased presence of firms on SM reflects the worth of SM for marketing purposes. Consumer PIN depends on specific pre-purchase evaluations of the firm's offering on brand, relationship and VEQs developed in SMMAs (Sano, 2014). SMMAs develop the perception of these equities among customers, thus leading to PIN among Generation Y (Felix et al., 2016; Nawi et al., 2020; Zhang et al., 2015). As such, the following are hypothesized:

$HM_{1a\text{-}f}$: Brand equity mediates the relationship between SMMAs (customization, electronic word of mouth, entertainment, information richness, interaction and trendiness) and purchase intention for mobile.

$HM_{2a\text{-}f}$: Relationship equity mediates the relationships between SMMAs (customization, electronic word of mouth, entertainment, information richness, interaction and trendiness) and purchase intention for mobile.

$HM_{3a\text{-}f}$: Value equity mediates the relationships between SMMAs (customization, electronic word of mouth, entertainment, information richness, interaction and trendiness) and purchase intention for mobile.

Research Methodology

Data Collection and Study Sample Design

This quantitative study had employed the cross-sectional design to assess factors that influenced SMMAs, BEQ, VEQ, REQ and PIN among Generation Y in Malaysia. The study population was composed of Malaysian consumers aged between 18 and 40 years. The survey was composed of a pre-structured, close-ended questionnaire, in which the respondents had to rate the scores from a set of pre-defined options. The questionnaire was disseminated via online social platforms to participants selected via convenient sampling. Data were gathered from 288 respondents between September and November 2020.

Research Instrument

The questionnaire was designed in both English and Malay languages. Items for SM marketing CTM and EWM were adapted from Kim and Ko (2016), Park and Kim (2014) and Wang et al. (2019). Next, items related to entertainment were obtained from Kim and Ko (2016) and Wang et al. (2019). Items for the INT of SM were retrieved from Kim and Ko (2016) and Nawi et al. (2020), while items for INF were adapted from Kim and Lee (2019) and Park and Kim (2014). Items for both TND and REQ were obtained from Kim and Lee (2019) and Nawi et al. (2020). Brand equity items were taken from Kim and Hyun (2011) and Kim and Lee (2019), whereas VEQ items were retrieved from Kim and Lee (2019) and Seo and Park (2018). Meanwhile, PIN items were obtained from Kim and Lee (2019). The 5-point Likert scale (1–5, from 'strongly disagree' to 'strongly agree') was applied for both dependent and independent variables.

Assessment of Common Method Biases

Social science enquiry methods are associated with common method biases (CMBs) as a result of a single source and a specific point in the time data collection method (Podsakoff et al., 2003). Harman's (1976) one-factor test was employed to detect any CMB issues among the study constructs (Podsakoff et al., 2003). Harman's test verified that CMB is not a critical issue in this present study as the single factor accounted for 40.589% of the variance (below 50%) (Podsakoff et al., 2003).

Multivariate Normality

Partial least squares structural equation modelling (PLS-SEM) dismisses the assumption of multivariate normality in the data as a non-parametric analysis tool (Hair et al., 2019). Besides adhering to Peng and Lai's (2012) endorsement, an online tool of web Power (https://webpower.psychstat.org/wiki/tools/index) was employed to determine data normality. The test outcomes showed that the dataset was not as normal as Mardia's multivariate coefficient *p*-values, which was below 0.05 (Cain et al., 2017).

Data Analysis Method

The PLS-SEM was run using Smart-PLS software 3.2 to analyse the data. It is a multivariate investigation tool that evaluates path models with latent constructs (Hair et al., 2019). The PLS-SEM empowers the researcher to work with non-normal and small datasets. Correspondingly, PLS-SEM is casual-predictive by nature, and it is beneficial in dealing with complex models (Chin, 2010). A two-step procedure is involved in PLS-SEM. The first measurement determines the reliability and validity of each study construct (Hair et al., 2019). The second step estimates the structural model correlations and examines the hypotheses with significance levels (Chin, 2010). Model assessment is typically performed with r^2, Q^2 and effect size f^2 to describe the path effect of the exogenous construct for the endogenous construct (Hair et al., 2019).

The transmittal approach was assumed to hypothesize the mediational relationships (Memon et al., 2018). We follow the Hair et al. (2019) guidelines to evaluate the mediational analysis using the preacher and Hayes approach. The analysis was performed where the indirect relationship between the impendent and outcome variables was evaluated through the mediator. The bootstrapping and sampling distribution helped distinguish the mediational effect. The bootstrapping outcomes offer detailed calculations of the mediation effect; the researcher must look for the lower and higher values of the confidence interval (CI), and if zero did not exist between the higher and lower values of the CI (Hair et al., 2019), it justifies the presence of the meditation effect as a mediator between the input and outcome variables (Memon et al., 2018).

Data Analysis

Table 1 presents the demographic profile of the respondents. As indicated in Table 1, most of the respondents in this study were males (55.6%). The distribution of the age groups among the respondents is as follows: (a) 18–21 years (12.2%), (b) 21–25 years (39.2%), (c) 26–30 years (41.3%), (d) 31–35 years (5.9%) and 36–40 years (1.4%). As for the education level, most of the respondents attained bachelor's degrees (60.4%), followed by diploma holders (15.6%). Only 9% completed their secondary school education, and 8.3% attained a master's degree (8.3%). The other respondents (6.3%) completed their foundation-level education, while only 0.3% of the respondents attained a doctoral degree. Besides that, most of the respondents reported using the Apple smartphone brand (29.5%), followed by Samsung (16.7%), Xiaomi (12.8%), Huawei (12.5%), Oppo (10.1%), Vivo (8%) and Lenovo (6.6%). The remaining respondents indicated using other smartphone brands. Adding to that, the majority of the respondents reported using Facebook (44.8%), YouTube (23.6%) and Instagram (8.3%). The remaining respondents used other SM platforms.

Table 1. Demographic Characteristics

	N	%		*N*	%
Gender			*Smartphone brand*		
Male	160	55.6	Apple	85	29.5
Female	128	44.4	HTC	1	0.3
Total	288	100.0	Huawei	36	12.5
			Lenovo	19	6.6
Age group			Nokia	1	0.3
18–21 years	35	12,2	OnePlus	9	3.1
21–25 years	113	39.2	Oppo	29	10.1
26–30 years	119	41.3	Samsung	48	16.7
31–35 years	17	5.9	Vivo	23	8.0
36–40 years	4	1.4	Xiaomi	37	12.8
Total	288	100.0	Total	288	100.0
Education			*Social media platform*		
Secondary school certificate	26	9.0	Facebook	129	44.8
Foundation	18	6.3	Instagram	24	8.3
Diploma/technical school certificate	45	15.6	Others	52	18.1
Bachelor's degree or equivalent	174	60.4	Snapchat	2	0.7
Master's degree	24	8.3	Twitter	3	1.0
Doctoral degree	1	.3	WeChat	5	1.7
Total	288	100.0	Weibo	5	1.7
			YouTube	68	23.6
			Total	288	100.0

Source: Authors' data analysis.

Reliability and Validity

Taking the direction of Hair et al. (2019), the reliability of the latent constructs can be determined based on Cronbach's alpha (CA), Dillon–Goldstein's rho (DG rho) and composite reliability (CR). The CA and CR values for each construct should exceed the threshold of 0.65, in which this study recorded 0.663 and 0.817 as the minimum values, respectively (Chin, 2010). Table 2 tabulates the results, signifying that the latent constructs reached satisfactory reliability and performed well for the later analysis. The average variance extracted (AVE) value for all items for each construct must be above 0.50 to identify adequate convergent validity in supporting the uni-dimensionality of

Table 2. Reliability and Validity

Variables	No. Items	CA	DG *rho*	CR	AVE	VIF
CTM	5	0.806	0.808	0.866	0.563	3.197
EWM	3	0.663	0.662	0.817	0.599	2.557
ENT	5	0.819	0.823	0.874	0.582	2.747
INF	5	0.820	0.832	0.874	0.582	2.695
INT	4	0.723	0.731	0.828	0.547	3.189
TND	5	0.778	0.778	0.849	0.529	3.141
BEQ	4	0.703	0.709	0.818	0.520	2.596
REQ	3	0.699	0.709	0.833	0.624	2.223
VEQ	4	0.753	0.778	0.849	0.575	2.813
PIN	5	0.826	0.828	0.878	0.591	–

Source: Authors' data analysis.

Note: CTM = Customization; EWM = Electronic word of mouth; ENT = Entertainment; INF = Information; INT = Interaction; TND = Trendiness; BEQ = Brand equity; REQ = Relationship equity; VEQ = Value equity; PIN = Purchase intention; *SD* = Standard deviation; CA = Cronbach's alpha; DG *rho* = Dillon–Goldstein's *rho*; C.R. = Composite reliability; AVE = Average variance extracted; VIF = Variance inflation factors.

each construct (Hair et al., 2019). All the variance inflation factor (VIF) values for each construct were below the threshold value of 3.3, thus indicating the absence of multicollinearity (Chin, 2010).

All the study constructs exhibited appropriate discriminant validity (see Table 3). The Fornell–Larcker criterion (1981) was employed to determine the discriminant validity of the study constructs. The criterion was estimated based on the square root of AVE, which must be higher than the correlation among the other constructs (Hair et al., 2019). Table 3 signifies that the study verified the discriminant validity for each construct. The loading and cross-loading values presented in Appendix Table A1 signifies that the study verified the discriminant validity for each construct.

Path Analysis

After determining the acceptable level of reliability and validity from the structural model, measurement calculation was performed to test the study hypotheses. The adjusted *r2* value for the six exogenous constructs (CTM, EWM, ENT, INF, INT and TND) elucidated 57.9%, 53.2% and 62.4% of the BEQ, REQ and VEQ of the mobile for online shopping, respectively. The predictive relevance (Q^2) values for the part of the BEQ, REQ and VEQ models were 0.296, 0.324 and 0.349, respectively, which indicated medium predictive relevance for BEQ and REQs but high predictive relevance for VEQ (Chin, 2010). The adjusted *r2* value for the three exogenous constructs (BEQ, REQ and VEQ) illuminated 57% of the change in the intention to purchase the mobile online. The predictive relevance (Q^2) value for the part of the model was 0.329, which signified high predictive relevance (Chin, 2010).

Model-standardized path values, *t*-values and significance-level results are tabulated in Table 4. The path coefficients between CTM and BEQ ($\beta = 0.084$, $t = 0.998$, $p = 0.159$) depicted an insignificant positive effect of CTM on mobile BEQ. The results provide insignificant statistical support to accept H_{1a}. The path values for EMW and BEQ ($\beta = 0.208$, $t = 2.365$, $p = 0.009$) displayed a significantly positive effect of EWM for mobile BEQ, thus supporting the acceptance of H_{1b}. The path between ENT and BEQ ($\beta = 0.044$, $t = 0.473$, $p = 0.318$) demonstrated the insignificantly positive influence of entertainment on mobile BEQ, thus failing to support H_{1c}. The path coefficients for INF and BEQ ($\beta = 0.243$, $t = 2.489$, $p = 0.006$) positively affected INF for BEQ, supporting H_{1d}. The path values for INT and BEQ ($\beta = 0.025$, $t = 0.300$, $p = 0.382$) exhibited an insignificantly positive effect of mobile INT on mobile BEQ, which offered no support for accepting H_{1e}. The path values between TRD and BEQ ($\beta = 0.269$, $t = 3.042$, $p = 0.001$) showed a significantly positive influence of TND on mobile BEQ, hence delivering evidence to support H_{1f}.

The path coefficients between CTM and REQ ($\beta = 0.107$, $t = 1.013$, $p = 0.156$) displayed an insignificantly positive effect of CTM on REQ of the mobile, thus delivering insignificant statistical support to accept H_{2a}. The path values for EMW and REQ ($\beta = 0.063$, $t = 0.921$, $p = 0.179$) showed an insignificantly positive effect of EWM on mobile on the REQ of mobile, thus offering support to

Table 3. Discriminant Validity

	CTM	EWM	ENT	INF	INT	TRD	BEQ	REQ	VEQ	PIN
Fornell–Larcker Criterion										
CTM	0.751									
EWM	0.725	0.774								
ENT	0.698	0.637	0.763							
INF	0.725	0.692	0.598	0.763						
INT	0.750	0.648	0.738	0.651	0.739					
TRD	0.739	0.671	0.726	0.718	0.738	0.727				
BEQ	0.660	0.662	0.595	0.684	0.615	0.696	0.727			
REQ	0.627	0.585	0.561	0.687	0.565	0.725	0.713	0.790		
VEQ	0.724	0.726	0.590	0.675	0.601	0.664	0.713	0.652	0.758	
PIN	0.690	0.707	0.602	0.758	0.633	0.714	0.676	0.758	0.675	0.769

Source: Authors' data analysis.

Table 4. Path Coefficients

Hypo		Beta	CI_{min}	CI_{max}	*T*	*P*	r^2	f^2	Q^2	Decision
Factors affecting BEQ										
H_{1a}	CTM → BEQ	0.084	–0.053	0.22	0.998	0.159		0.005		Reject
H_{1b}	EWM → BEQ	0.208	0.059	0.349	2.365	0.009		0.041		Accept
H_{1c}	ENT → BEQ	0.044	–0.116	0.193	0.473	0.318		0.002		Reject
H_{1d}	INF → BEQ	0.243	0.089	0.415	2.489	0.006		0.053		Accept
H_{1e}	INT → BEQ	0.025	–0.113	0.164	0.300	0.382		0.000		Reject
H_{1f}	TND → BEQ	0.269	0.121	0.413	3.042	0.001	0.588	0.052	0.296	Accept
Factors affecting REQ										
H_{2a}	CTM → REQ	0.107	–0.072	0.279	1.013	0.156		0.007		Reject
H_{2b}	EWM → REQ	0.063	–0.047	0.178	0.921	0.179		0.003		Reject
H_{2c}	ENT → REQ	0.068	–0.066	0.213	0.792	0.214		0.004		Reject
H_{2d}	INF → REQ	0.363	0.218	0.524	3.973	0.000		0.107		Accept
H_{2e}	INT → REQ	–0.037	–0.189	0.113	0.398	0.345		0.001		Reject
H_{2f}	TND → REQ	0.258	0.101	0.418	2.683	0.004	0.542	0.044	0.324	Accept
Factors affecting VEQ										
H_{3a}	CTM → VEQ	0.296	0.161	0.446	3.447	0.000		0.068		Accept
H_{3b}	EWM → VEQ	0.338	0.205	0.458	4.383	0.000		0.121		Accept
H_{3c}	ENT → VEQ	0.019	–0.133	0.154	0.220	0.413		0.000		Reject
H_{3d}	INF → VEQ	0.154	0.025	0.298	1.843	0.033		0.024		Accept
H_{3e}	INT → VEQ	–0.057	–0.187	0.078	0.718	0.236		0.003		Reject
H_{3f}	TND → VEQ	0.137	0.025	0.255	1.958	0.025	0.631	0.015	0.349	Accept
Factors affecting PIN										
H_{4a}	BEQ → PIN	0.243	0.078	0.411	2.430	0.008		0.054		Accept
H_{4b}	REQ → PIN	0.304	0.175	0.432	3.911	0.000		0.098		Accept
H_{4c}	VEQ → PIN	0.303	0.165	0.426	3.657	0.000	0.574	0.097	0.329	Accept

Source: Authors' data analysis.

accept H_{2b}. The path values between ENT and REQ (β = 0.068, t = 0.792, p = 0.214) revealed an insignificantly positive effect of entertainment on REQ, hence delivering no evidence to support H_{2c}. The path coefficients for INF and REQ (β = 0.363, t = 3.973, p = 0.000) displayed a significantly positive effect of INF on REQ, thereby supporting H_{2d}. The path values for INT and REQ (β = –0.037, t = 0.398, p = 0.345) showed an insignificantly negative effect of mobile INT on mobile REQ, thus offering no support to accept H_{2e}. The path values between TRD and REQ (β = 0.258, t = 2.683, p = 0.004) significantly positively influenced TND on mobile BEQ, thus supporting H_{2f}.

The path coefficients of CTM (β = 0.296, t = 3.447, p = 0.000) and INF (β = 0.154, t = 1.843, p = 0.033) with VEQ demonstrated a significantly positive impact, thus supporting H_{3a} and H_{3d}. Similarly, the path values for EMW and VEQ (β = 0.338, t = 4.383, p = 0.000) showed a significantly positive effect of EWM on mobile VEQ, thus delivering support to accept H_{3b}. The path values of ENT (β = 0.019, t = 0.220, p = 0.413) and INT (β = –0.057, t = 0.718, p = 0.236) with VEQ exhibited an insignificantly negative influence of entertainment and INT on mobile VEQ, thus providing no evidence to support H_{3c} and H_{3e}. The path between TRD and VEQ (β = 0.137, t = 1.958, p = 0.025) demonstrated an significant positive effect between TND and mobile VEQ, which demonstrated evidence not to support H_{3f}.

The path coefficients of all BEQ (β = 0.243, t = 2.430, p = 0.008), REQ (β = 0.304, t = 3.911, p = 0.000) and VEQ (β = 0.303, t = 3.657, p = 0.000) with PIN demonstrated a significantly positive effect of BEQ, RWQ and VEQ on intention to purchase a mobile, thus delivering evidence to support H_{4a}, H_{4b} and H_{4c}.

Mediation Analysis

The results revealed that BEQ did not mediate the relationships of CTM (β = 0.021, CI_{min} = –0.014, CI_{max} = 0.058, p = 0.180), EWM (β = 0.051, CI_{min} = 0.006, CI_{max} = 0.125, p = 1.374) and ENT (β = 0.011, CI_{min} = –0.032, CI_{max} = 0.049, p = 0.446) with intention to purchase a mobile, thus dismissing support for hypotheses HM_{1a}, HM_{1b} and HM_{1c}. Nonetheless, BEQ insignificantly mediated the relationship between INF and mobile PIN (β = 0.059, CI_{min} = 0.010, CI_{max} = 0.134, p = 1.531) for HM_{1d}. In hypothesis HM_{1e}, BEQ did not mediate the relationship between INT and intention to purchase a mobile (β = 0.006, CI_{min} = –0.033, CI_{max} = 0.038, p = 0.286), thus rejecting hypothesis HM_{1e}. Meanwhile, BEQ significantly mediated the relationship between TND and mobile PIN (β = 0.065, CI_{min} = 0.014, CI_{max} = 0.131, p = 0.035), thus accepting HM_{1f}.

Next, REQ did not mediate the relationships of CTM (β = 0.033, CI_{min} = –0.024, CI_{max} = 0.082, p = 0.154), EWM (β = 0.019, CI_{min} = –0.014, CI_{max} = 0.061, p = 0.199) and entertainment (β = 0.021, CI_{min} = –0.020, CI_{max} = 0.068, p = 0.220) with intention to purchase a mobile, thus failing to support hypotheses HM_{2a}, HM_{2b} and HM_{2c}. However, REQ had significantly mediated the relationships of INF and (β

= 0.110, CI_{min} = 0.049, CI_{max} = 0.191, p = 0.005) and TND (β = 0.079, CI_{min} = 0.025, CI_{max} = 0.146, p = 0.018) with intention to purchase a mobile. As a result, hypotheses HM_{2d} and HM_{2f} are accepted in this study. Meanwhile, hypothesis HM_{2e} is rejected as REQ did not mediate the link between INT and mobile PIN (β = –0.011, CI_{min} = –0.056, CI_{max} = 0.038, p = 0.347).

The study outcomes revealed that VEQ did mediate the relationships of CTM (β = 0.090, CI_{min} = 0.039, CI_{max} = 0.151, p = 0.005) and EWM (β = 0.102, CI_{min} = 0.044, CI_{max} = 0.165, p = 0.003) with mobile PIN. These offer statistical support for hypotheses HM_{3a} and HM_{3b}. As for hypotheses HM_{3c} and HM_{3e}, VEQ failed to mediate the relationships of entertainment (β = 0.006, CI_{min} = –0.041, CI_{max} = 0.047, p = 0.415) and INT (β = –0.017, CI_{min} = –0.058, CI_{max} = 0.024, p = 0.242). Hence, hypotheses HM_{3c} and HM_{3e} are not supported. It was also found that VEQ insignificantly mediated the relationships of INF (β = 0.047, CI_{min} = 0.006, CI_{max} = 0.107, p = 0.068) failing to support the HM_{3d}. For TND (β = 0.042, CI_{min} = 0.007, CI_{max} = 0.086, p = 0.047) support hypotheses HM_{3f}. Table 5 outlines the mediation results for this study.

Discussion

Social Media Marketing Activities on Brand Equity

The initial hypotheses look into the effects of CTM, EWM, ENT, INF, INT and TND on BEQ. The study findings support the argument that EWM (f^2 = 0.066), INF (f^2 = 0.059) and TND (f^2 = 0.067) have a significantly positive effect on BEQ for the purchase of mobile among Malaysian youth. However, the effects of CTM, ENT and INT on BEQ for the online purchase of mobile phone are insignificant and weak (Chin, 2010). The study findings correspond to what Godey et al. (2016) reported that EWM, INF and TND significantly affect BEQ. EWM enriches awareness and develops a better understanding of the brand, which nurtures BEQ (Kim & Lee, 2019). Information-rich-driven SM content empowers customers to build BEQ for the brand (Felix et al., 2016). Going with the flow and following the social trends reflect the ability of the firms to meet customers' expectations and harness BEQ.

Social Media Marketing Activities on Relationship Equity

The following hypotheses evaluate the effect of CTM, EWM, ENT, INF, INT and TND on REQ. The study findings reveal that INF (f^2 = 0.117) and TND (f^2 = 0.044) has a relatively higher effect on REQ among Malaysian youth. The effect of CTM, EWM, ENT and INT on REQ for the online purchase of mobile is weak and insignificant (Chin, 2010). The study findings conform to the findings reported by Seo and Park (2003) and Nawi et al. (2020) that CTM, EWM, ENT and INT significantly affect REQ. SMM requires CTM that harnesses REQ and promotes a sense of association and brand affiliation (Nawi et al., 2020). EWM is necessary as the comments and experiences of prospective customers harness the brand-level REQ (Seo & Park, 2018). SM content needs to incorporate entertainment to bind customers to the brand and build a positive association with the brand, leading to brand-level REQ (Kim & Lee, 2019). High INT harnesses relatedness and a sense of satisfaction and enjoyment for customers. Park and Kim (2014) suggest that social media INTs promote brand-level REQ.

Table 5. Mediating Effects

Hypo	Associations	Beta	CI_{min}	CI_{max}	*T*	*P*	Decision
HM1a	CTM → BEQ → PIT	0.021	–0.014	0.058	0.916	0.180	No mediation
HM1b	EWM → BEQ → PIT	0.051	0.006	0.125	1.374	0.085	No mediation
HM1c	ENT → BEQ → PIT	0.011	–0.032	0.049	0.446	0.328	No mediation
HM1d	INF → BEQ → PIT	0.059	0.010	0.134	1.531	0.063	No mediation
HM1e	INT → BEQ → PIT	0.006	–0.033	0.038	0.286	0.387	No mediation
HM1f	TRD → BEQ → PIT	0.065	0.014	0.131	1.808	0.035	Mediation
HM2a	CTM → REQ → PIT	0.033	–0.024	0.082	1.020	0.154	No mediation
HM2b	EWM → REQ→ PIT	0.019	–0.014	0.061	0.845	0.199	No mediation
HM2c	ENT → REQ → PIT	0.021	–0.020	0.068	0.772	0.220	No mediation
HM2d	INF → REQ → PIT	0.110	0.049	0.191	2.548	0.005	Mediation
HM2e	INT → REQ → PIT	–0.011	–0.056	0.038	0.398	0.347	No mediation
HM2f	TRD → REQ → PIT	0.079	0.025	0.146	2.106	0.018	Mediation
HM3a	CTM → VEQ → PIT	0.090	0.039	0.151	2.587	0.005	Mediation
HM3b	EWM → VEQ → PIT	0.102	0.044	0.165	2.768	0.003	Mediation
HM3c	ENT → VEQ→ PIT	0.006	–0.041	0.047	0.215	0.415	No mediation
HM3d	INF → VEQ → PIT	0.047	0.006	0.107	1.492	0.068	No mediation
HM3e	IND → VEQ → PIT	–0.017	–0.058	0.024	0.700	0.242	No mediation
HM3f	TRD → VEQ → PIT	0.042	0.007	0.086	1.674	0.047	Mediation

Source: Authors' data analysis.

Social Media Marketing Activities on Value Equity

The subsequent hypotheses appraise the effects of CTM, EWM, ENT, INF, INT and TND on VEQ. The study findings reinforce the argument that CMT ($f^2 = 0.045$), EWM ($f^2 = 0.200$) and INF ($f^2 = 0.030$) have significantly positive effects on VEQ for the purchase of mobile among Malaysian youth. The effects of ENT, INT and TND on VEQ for the online purchase of mobile are weak and insignificant (Chin, 2010). The study findings are consistent with those reported by Seno (2014) and Nawi et al. (2020) that ENT, INT and TND significantly affect VEQ. Social media-based entertainment instigates positive emotions towards the brand and harnesses brand VEQ (Wang et al., 2019). The interactive social media-based marketing content facilitates customers' posting of personal questions and comments and instigates the perception of the brand's superior value (Kim et al., 2019). Trendiness denotes a firm's ability to quickly follow prevalent trends and even generate the impression that others follow the trend generated by the firm (Nawi et al., 2020).

Development of Mobile Purchase Intention

The last three hypotheses evaluate the effect of BEQ, REQ and VEQ on PIN. The study findings reinforce the argument that BEQ ($f^2 = 0.066$), REQ ($f^2 = 0.074$) and VEQ ($f^2 = 0.057$) have significantly positive effects on PIN to buy mobiles online among Malaysian youth (Chin, 2010). The study findings correspond to Zhang et al.'s findings (Zhang et al., 2014) which reported that BEQ, REQ and VEQ significantly influence PIN. Evidently, the development of BEQ, REQ and VEQ can be translated into PIN. Relationship equity strongly influences PIN compared with other equities that emerge from SMMAs. Firms need to concentrate on developing REQ as strong associations harness REQ (Nawi et al., 2020). Meanwhile, the results demonstrated VEQ as the least significant contributor to the formation of PIN. Manufacturers essentially concentrate on developing VEQ by combining the benefits of product quality and convenience with the relevant type of price advantage and developing the perception of value for prospective customers (Wang et al., 2019).

Mediating Effects

The subsequent mediating hypotheses investigate the mediating effect of BEQ for SMMA on PIN. The finding approves the meditating effect of BEQ on the relationship between TRD and PIN for online mobile purchase intention among Malaysian youth. BEQ does not mediate all the other paths of the study. SMMAs need to plan well, while necessary attributes must be incorporated to attract and create positive brand-level equity in promoting PIN among Generation Y consumers (Seo & Park, 2018).

The subsequent mediating hypotheses explore the mediating effect of REQ for SMMA on PIN. The finding approves the meditating effect of REQ on the relationship between INF and PIN for online mobile purchase intention among Malaysian youth. Furthermore, the paths for TRD and PIN are significantly mediated by REQ, and REQ does not mediate all the other paths of the study. Retaining customers is a more challenging task than attracting them. SMMAs need to disperse the right information with prevailing trends (Seo & Park, 2018). SMMAs do not guarantee firms' success, as information-rich and accurate SMMAs contribute to long-term relationships with existing and new customers to develop PINs (Zhang et al., 2015).

The subsequent mediating hypotheses assess the mediating effect of VEQ for SMMA on PIN. The finding approves the meditating effect of VEQ on the relationship between CMT and PIN for online mobile purchase intention among Malaysian youth. The paths for EWM and PIN are also significantly mediated by VEQ, and VEQ does not mediate all the other paths of the study. The value proposition for product offerings brings a positive attitude and customer satisfaction (Seo & Kim, 2003). SMMAs can narrate the existing customer's valuable experiences, which can help to inculcate a positive attitude among new customers and further lead to purchase intention (Zhang et al., 2014). SMMAs need to develop a core marketing strategy for customer satisfaction.

Implication

To get positive responses from clients towards a brand, technology vendors should focus on SMMAs. In this extremely competitive market, enterprises must currently focus on all SMMAs in order to achieve the essential BEQ, REQ and VEQ from customers (Godey et al., 2016). Consumer equity towards technology businesses can be strengthened by improving entertainment and INT activities in SMMAs. However, to establish the requisite consumer-level equity to entice consumers to online technology buying, a holistic combination of SMMAs is required.

Consumer-level equity can have a big impact on whether or not someone wants to buy a phone online. The most significant factor to mobile purchase intention is REQ, followed by BEQ and VEQ. The findings suggest that SMMAs are critical for establishing REQ that leads to purchase decisions (Zhang et al., 2014). As a result, businesses should concentrate on using SMMAs to improve REQ. Increasing SMMAs through personalization and entertainment allow mobile sellers to build stronger relationships. Brand equity improves consumer engagement with businesses and SMMAs. Consumer-level VEQ, on the other hand, has no bearing on SMMAs

because consumer-level VEQ may not be fully transmitted via SMMAs (Seo & Kim, 2003). Nonetheless, a well-balanced combination of SMMAs can aid businesses in improving customer-level equities and capturing purchase intent.

Conclusion

This study had probed into the effects of SMMAs (CTM, EWM, ENT, INF, INT and TND) for a mobile brand that led to consumer-level BEQ, REQ and VEQ. These consumer-level equities facilitate the formation of the intent to PIN for a mobile brand.

SMMAs of EWM, INF and TND significantly infused the mobile purchase BEQ among Malaysian youth. Nevertheless, for REQ, only INF and TND were significant. SMMAs of CTM, EWM and INF significantly predicted VEQ. The study findings signified that for Malaysian SM users, SMMAs of CTM, EWM, INF and TND emerged as significant for nurturing consumer-level equities in creating the intent to purchase mobile.

Limitations

This study employed the cross-sectional design to determine consumer-level equities and intention to purchase mobile. The study limitations are as follows: consumers are centred differently on their personal characteristics, such as their willingness to experiment, risk-taking behaviour and awareness. Future studies may incorporate these personal attributes to estimate one's willingness to purchase online and SMMAs. Hence, it is integral for future research work to adopt a longitudinal research design to comprehend the associated perception of SMMAs better, particularly when the development of consumer equities from the use of SMMAs can create one's intention to purchase mobile online. Future work may assess purchase behaviour instead of merely approximating mobile PIN. Besides, the role of previous online purchase experience may be embedded to explore other significant factors, such as trust, intention and future purchase behaviour for online purchase.

Availability of data and materials

All data generated or analysed during this study are included in this published article (submitted with the manuscript: Additional supporting file).

Ethics Approval and Consent to Participate

This study has been performed in accordance with the Declaration of Helsinki. Written informed consent for participation was obtained from respondents who participated in the survey. For the respondents who participated the survey online (using Google Forms), they were asked to read the ethical statement posted on the top of the form (*There is no compensation for responding nor is there any known risk. In order to ensure that all information will remain confidential, please do not include your name. Participation is strictly voluntary and you may refuse to participate at any time*) and proceed only if they agree. No data was collected from anyone under 16 years old.

Declaration of Conflicting Interests

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Appendix

Table A1. Loadings and Cross-loading

Code	CTM	EWM	ENT	INF	INT	TRD	BEQ	REQ	VEQ	PIN
CTM: Item 1	*0.728*	0.555	0.583	0.534	0.581	0.538	0.484	0.421	0.523	0.511
CTM: Item 2	*0.751*	0.592	0.593	0.540	0.628	0.583	0.439	0.473	0.463	0.508
CTM: Item 3	*0.778*	0.501	0.503	0.585	0.569	0.587	0.504	0.496	0.588	0.564
CTM: Item 4	*0.728*	0.487	0.480	0.534	0.524	0.559	0.500	0.494	0.550	0.457
CTM: Item 5	*0.766*	0.594	0.475	0.525	0.532	0.511	0.541	0.466	0.582	0.546
EWM: Item 1	0.463	*0.726*	0.477	0.559	0.453	0.572	0.529	0.481	0.525	0.534
EWM: Item 2	0.600	*0.816*	0.507	0.560	0.546	0.481	0.469	0.451	0.567	0.582
EWM: Item 3	0.618	*0.777*	0.493	0.485	0.504	0.500	0.533	0.423	0.590	0.525
ENT: Item 1	0.464	0.444	*0.765*	0.439	0.526	0.528	0.496	0.445	0.419	0.464
ENT: Item 2	0.541	0.482	*0.765*	0.459	0.560	0.521	0.429	0.393	0.413	0.479

(Table A1 continued)

(Table A1 continued)

Code	CTM	EWM	ENT	INF	INT	TRD	BEQ	REQ	VEQ	PIN
ENT: Item 3	0.545	0.531	*0.789*	0.432	0.574	0.575	0.442	0.429	0.477	0.440
ENT: Item 4	0.542	0.463	*0.796*	0.487	0.545	0.587	0.478	0.504	0.480	0.479
ENT: Item 5	0.577	0.516	*0.693*	0.463	0.619	0.557	0.417	0.354	0.461	0.435
INF: Item 1	0.556	0.528	0.461	*0.790*	0.513	0.553	0.519	0.489	0.547	0.559
INF: Item 2	0.613	0.554	0.527	*0.775*	0.522	0.551	0.499	0.475	0.515	0.613
INF: Item 3	0.481	0.475	0.411	*0.725*	0.483	0.572	0.553	0.560	0.506	0.571
INF: Item 4	0.481	0.492	0.389	*0.672*	0.438	0.410	0.390	0.421	0.344	0.496
INF: Item 5	0.625	0.589	0.489	*0.842*	0.526	0.620	0.611	0.639	0.615	0.641
INT: Item 1	0.493	0.438	0.514	0.452	*0.664*	0.504	0.427	0.357	0.428	0.449
INT: Item 2	0.612	0.498	0.622	0.491	*0.791*	0.585	0.447	0.421	0.429	0.467
INT: Item 3	0.567	0.540	0.526	0.535	*0.777*	0.562	0.530	0.467	0.530	0.531
INT: Item 4	0.552	0.427	0.527	0.436	*0.718*	0.560	0.399	0.416	0.371	0.414
TRD: Item 1	0.535	0.488	0.616	0.492	0.576	*0.721*	0.479	0.406	0.459	0.479
TRD: Item 2	0.558	0.494	0.525	0.540	0.533	*0.728*	0.532	0.476	0.570	0.543
TRD: Item 3	0.512	0.437	0.485	0.527	0.545	*0.713*	0.493	0.535	0.400	0.510
TRD: Item 4	0.547	0.453	0.570	0.492	0.586	*0.757*	0.510	0.459	0.473	0.545
TRD: Item 5	0.535	0.561	0.456	0.553	0.484	*0.718*	0.510	0.527	0.501	0.516
BEQ: Item 1	0.435	0.461	0.422	0.494	0.408	0.523	*0.694*	0.440	0.501	0.472
BEQ: Item 2	0.500	0.505	0.470	0.511	0.483	0.523	*0.768*	0.577	0.503	0.544
BEQ: Item 3	0.455	0.450	0.406	0.452	0.454	0.429	*0.684*	0.475	0.477	0.398
BEQ: Item 4	0.525	0.507	0.430	0.528	0.448	0.541	*0.761*	0.571	0.589	0.538
REQ: Item 1	0.593	0.502	0.472	0.637	0.525	0.611	0.614	*0.838*	0.576	0.575
REQ: Item 2	0.443	0.384	0.374	0.509	0.394	0.481	0.511	*0.778*	0.429	0.458
REQ: Item 3	0.434	0.492	0.476	0.467	0.406	0.465	0.557	*0.752*	0.529	0.558
VEQ: Item 1	0.470	0.518	0.420	0.481	0.405	0.466	0.538	0.418	*0.728*	0.455
VEQ: Item 2	0.520	0.490	0.467	0.525	0.432	0.484	0.535	0.549	*0.799*	0.550
VEQ: Item 3	0.588	0.637	0.434	0.522	0.481	0.517	0.556	0.483	*0.765*	0.469
VEQ: Item 4	0.605	0.553	0.465	0.515	0.496	0.541	0.532	0.520	*0.740*	0.564
PIN: Item 1	0.506	0.552	0.504	0.593	0.479	0.619	0.549	0.444	0.560	*0.733*
PIN: Item 2	0.606	0.636	0.530	0.637	0.575	0.570	0.528	0.501	0.535	*0.810*
PIN: Item 3	0.527	0.508	0.419	0.603	0.431	0.554	0.549	0.610	0.494	*0.799*
PIN: Item 4	0.496	0.544	0.471	0.511	0.490	0.499	0.479	0.493	0.464	*0.726*
PIN: Item 5	0.514	0.482	0.396	0.565	0.464	0.500	0.489	0.539	0.539	*0.771*

Source: Authors' data analysis.

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