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Role of Cultural Intelligence and Customer Involvement on Behavioral Loyalty Toward Manufactured Products in Nigeria

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Abstract: Evidence from the literature reveals that customer loyalty research is growing and is becoming more widely integrated into related disciplines. This study evaluates the role of sales representatives' cultural intelligence (CI) in the behavioral loyalty (BL) of customers of SMEs in Nigeria, through the mechanism of customer involvement (CuI). Two sets of questionnaires were administered directly to the sales representatives, and indirectly to the customers, via the sales representatives. Three hundred and fifty copies of the sales representatives' questionnaire were administered, based on the population of 65 manufacturing SMEs and an average of 5.4 copies per SME, while 384 copies of the customers' questionnaire were sent to the unknown pool of customers. Data were collected from the two sets of respondents, which were analyzed through a variance-based structural equation modeling using Smart-PLS software. The results reveal a positive and significant relationship between cultural intelligence and behavioral loyalty, while the indirect relationship reveals customer involvement does strongly mediate the relationship between the antecedent and the outcome. The findings imply that behavioral loyalty is engendered when sales representatives possess high cultural intelligence, and customers are strategically involved through consultations and product co-creation.

Keywords: cultural intelligence, customer involvement, behavioral loyalty
JEL Classification: M3, M310, M140

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Introduction

Research Design

The spate of globalization and insecurity has facilitated a massive migration of people, which has fostered intercultural integration (Johnson, Meyers, and Williams 2013 in Paparoidamis, et al, 2019). As people migrate, there is an upsurge of businesses in the host environment. This creates the need for organizations to develop strategies for survival in a diverse market setting. Whilst the development can be seen as an opportunity on one hand, the other view is that the existing local companies feel threatened due to the activities of the new entrants in their circle of influence. As a result, firms compete to position themselves to attract these diverse customers' confidence and loyalty.

Primarily, marketing is aimed at customer retention (Lee, Kim, & Pan, 2014; Palmatier, Jarvis, Bechkoff, & Kardes, 2009). This is because acquiring new customers is costlier compared to retaining existing ones (Hwang & Mattila, 2018). Therefore, loyalty in the relationship marketing literature attracts spontaneous popularity (Xie & Chen, 2013; Kandampully & Zhang, 2015). It is considered among the most enduring assets a company must strive to have, to guarantee its stability and develop long-term, mutual relationships that make economic sense to the customers (Kandampully & Zhang, 2015), as well as having a positive effect on the organization's bottom line. Here, loyalty in a customer spurs brand commitment and positive word of mouth (WOM)(Albert, Merunka, & Valette-Florence, 2013;Gómez, Consuegra, & Díaz, 2017). Hence, a loyal customer is less sensitive to a relative price increase (Dominique-Ferreira, Vasconcelos, & Proença, 2016; Evanschitzky et al., 2012), thereby minimizing the tendency to switch to a competitor's product (Banik, Gao, & Rabbanee, 2019).

Notably, literature on customer loyalty has continued to soar as a cursory search reveals decades of extant research efforts to establish the most appropriate factors (Ostrowski, O'Brien, & Gordon, 1993; Paparoidamis et al., 2019). Pan, Sheng and Xie (2012) categorize the antecedent of customer loyalty into two, namely: (i) customer-related factors, (ii) product-related factors. The customer-related antecedents that are found to associate with loyalty include: customer satisfaction (Shankar, Smith, & Rangaswamy, 2003; Cheng, Gan, Imrie, & Mansori, 2018; Akroush & Mahadin, 2019), trust (Chaudhuri & Holbrook, 2001; Iglesias, Markovic, Bagherzadeh, & Singh, 2018), psychological commitment (Bloemer & De Ruyter, 1998) and loyalty programs (Pan et al., 2012). Researchers have found perceived service/product quality (Wong & Sohal, 2003; A. Shankar & Jebarajakirthy, 2019; Lemy, Goh, & Ferry, 2019), perceived value (Lai, Griffin, & Babin, 2009), perceived fairness/justice (Seiders & Berry, 1998) as some of the antecedents to customer loyalty. In addition, it can also be observed that an environmental related-factor; culture (Eng & Jin Kim, 2006; García-Fernández, Martelo-Landroguez, Vélez-Colon, & Cepeda-Carrión, 2018) is an antecedent to customer loyalty, where power distance, Confucian culture and organizational culture respectively were found to relate with customer loyalty. Similarly, Paparoidamis et al. (2019) evaluated the moderating role of service employees' cultural intelligence dimensions in the relationship between perceived service quality and customer loyalty intentions. The three components of cultural intelligence, namely cognitive, emotional/motivational, and physical, were found to have differential moderating effects on the perceived service quality (PSQ) and customer loyalty, which varies across two different settings (emerging market and matured market context).

As a point of departure from the extant debate, this study introduces (i) the role of sales representatives' cultural intelligence to antecede customer loyalty. We propose that a sales representative who can understand different cultures and interact effectively in a cross-cultural and multicultural setting can attract customers' confidence and loyalty. A search of the available literature on cultural intelligence reveals a gap in the link with customer loyalty. (ii) We introduced a mechanism into the relationship between sales representatives' customer involvement and customer loyalty, and propose that the relationship is facilitated through the intervening role of customer involvement. Thus, where customers perceive their input in a company's offerings, they are expected to reciprocate positively toward the products or services offered. Similarly, a cursory search on the mediating role of customer involvement in the relationship between the antecedent and the outcome reveals a lack of evidence. (iii) An evaluation of the antecedent role of customer involvement in actual loyalty behavior. Paparoidamis et al. (2019) had earlier called for future researchers to explore the role of loyalty behavior as a criterion across different countries. In addition, we observed from the sizeable body of literature we reviewed that constructs and theories of cultural intelligence have been developed and tested exclusively in Western and European contexts and focused on people working overseas (Ang, Dyne, et al., 2007). We are keen on establishing a similar relationship in an intracultural setting, since theory, constructs, measures, and relationships among constructs should not be culturally bound. Although many scholars have called for an examination of the applicability of these theories to Asia (Blut, 2016; Collier & Bienstock, 2006) and other developing countries, only a few studies have done so. Interestingly, literature on intracultural diversity within a national culture is still unknown.

Therefore, the objectives of this study include determining the role of cultural intelligence in behavioral loyalty, evaluating the role of customer involvement as the mechanism on which the relationship between cultural intelligence and behavioral loyalty is hinged. In addition, this study is a response to calls for the assessment of the customer involvement theory in a setting other than the West where cultural identities are distinct and discrete, to determine whether such theories apply in a multicultural local setting that is characterized by diverse indigenous ethnic groups. Studying this is important to the manufacturers and their agents in a context like Nigeria that is multi-ethnic, multi-lingual, multi-religious, and multi-cultural in its composition. It is said to have over 250 ethnic groups (Ojo, 2016; Ogoanah, 2012), which are connected to 400 languages of the Niger-Congo, Nilo-Sahara and Afro-Asiatic Phyla. This makes the country a melting pot of cultural diversity. With its variegated cultural composition, marketing activities become challenging. The development is compounded by the influx of foreign nationals due to the insecurity befalling Africa and the global economy. Beside the spate of insecurity, another strong factor that influences Nigerian companies, like those in most emerging countries, is the challenge posed by global market integration, making customer retention an uphill task. It has been observed that most local companies in Nigeria rarely cope with the competitive strands of Multinational Corporation (MNC), and worse is the rate at which other African companies thrive in Nigeria. A World Economic Forum report (2018) captured the trend of a steady decline in the competitive strength of Nigerian local companies, despite the optimism of Azmat and Huong (2013). The Nigerian Competitive Index plunged from 3.81% in 2009 to 3.30% in 2018, suggesting a low match with their contemporaries. Therefore, understanding customer loyalty from cultural perspectives is expected to strengthen the competitiveness of sales representatives operating in an environment other than their own. Hence, this study delineates cultural intelligence as a capability that can create and sustain loyalty in a culturally diverse society like Nigeria.

Theoretical Foundation

We adopt a multi-theoretical approach to theorize the proposed relationships which are fundamental to this study. These are the social identity and social exchange theories. The social identity theory, as conceived by Billig & Tajfel, (1973), explains a person's understanding that he or she belongs to certain social groups which give him or her certain emotional and value significance for associating or belonging to such groups. It centers on an individual's social and self-image from belonging to a perceived social category. Here, the assumption is that (i) people work to attain and maintain a positive social identity; (ii) this positive social identity is related to a favorable comparison made among a group that a person belongs to (the in-group) and an unfavorable comparison made by a group that the person belong to (the out-group); (iii) where one's social identity is satisfactory, one tends to maintain the current group, and if otherwise leave the in-group for a more favorable one (Tajfel, 1978 in Miles, 2012). In sum, research findings involving social identity converge on three fundamental implications for organizations. First, people tend to respond and perform activities that are consistent with their social identity. As such, they behave favorably toward organizations that are positively inclined toward their social identity (Mael & Ashforth, 1992). Second, it was established that positive group outcomes, such as team cohesion, cooperation, and altruism are achieved with positive social identification among the in-group (Turner, 1982, in Miles, 2012). Thirdly, when individuals identify with an organization, they are influenced by the values, ideals, and practices of the organization compared to others. This level of influence is found to increase the level of loyalty and commitment (Miles, 2012).

Social exchange, on the other hand, is based on the idea that parties engage and sustain exchange relationships with the expectation of a rewarding experience (Blau, 1964; Cropanzano, 2005). The theory emphasizes a two-sided, mutually contingent, and mutually rewarding process known as exchange (Miles, 2012). Once a member perceives the relationship as a burden that is not rewarding, in line with his/her exchange ideology (Cropanzano, 2005), he/she ceases to offer value in the exchange. In the social exchange theory, parties are guided by certain "rules" for the exchange processes, referred to as "reciprocity," which nurtures the relationship over time into one of trust, loyalty, and mutual commitment (Blau 1964 in Paparoidamis et al., 2019). Where a formal agreement for reciprocity is not clearly stated, parties subtly rely on norms of reciprocity or exchange ideology in social interactions between and among individuals, to ensure and maintain the success of their relationship (Gouldner,1960). Although the norms of reciprocity are universally plausible, some of the evidence suggests that certain cultural and individual differences in endorsing and engaging in acts of reciprocity exist (Emerson, 1976; Hoppner, Griffith, and White 2015). The social identity and social exchange theories are foundational to understanding the predictive role of cultural intelligence and customer involvement in customer loyalty.

Placing this theoretical evidence side by side with the conceptualized relationships in this study, customer loyalty is expected to increase when sales representatives can understand and integrate effectively in a multi-cultural setting. Thus, they can learn and affiliate within an in-group culture, by expressing the characteristics typical to them. By so doing, they tend to gain the confidence and admiration of the group members. Since they represent an organization, the group members are expected to behave favorably toward the organization (Mael & Ashforth, 1992), resulting in a positive social identification among them (Turner, 1982 in Miles, 2012). In response, we expect reciprocity in line with Cropanzano and Mitchell (2005: 877), "rules and norms of exchange are considered a cultural mandate," in which customers who feel involved should adapt their cognitive mindsets, attitudes, and behavior to the partners' cultures. Such adaptation can help the interacting partners feel respected and valued, which in turn increases the level of loyalty and commitment (Miles, 2012).

Hypotheses Development

Cultural Intelligence (CI) and Behavioral Loyalty

Works of literature on customer loyalty have operationalized loyalty under behavioral and attitudinal streams (Kaur, Dhir, Chen, & Rajala, 2019; Vinita, & Durga, 2015). It is regarded as attitudinal when it bothers customers' favorable preference for a product/service relative to other firms making a similar offer (Vinita, & Durga, 2015). Attitudinal loyalty is usually short-lived with an alternative brand, a better attribute, and a cheaper price offered by competitors. According to Lenka, Suar, and Mohapatra (2009), such customers are likely to switch their loyalty. On the other hand, BL is seen as a stronger commitment expressed by customers toward purchasing a particular product/service amid diverse alternatives in the market (Lenka et al., 2009 in Vinita, & Durga, 2015). It otherwise represents the real buying behavior of customers, as expressed through repeated purchases. This study defines loyalty based on the latter, which seeks to unearth the role of the antecedent in the behavioral action of the customer.

Though studies on BL abound in the literature, Paparoidamis et al. (2019) found that the relationship involving cultural intelligence and relationship marketing is rare, and suggested the need for researchers to explore the link with actual behavioral loyalty. Though empirical evidence between cultural intelligence and behavioral loyalty seems rare, we consider this proposition viable, drawing from the theoretical strength of the social identity and social exchange theories (Miles, 2012 in Blau, 1964).

In consonance with the operationalization of the cultural intelligence dimensions of cognitive, meta-cognitive, motivation and behavior (Van Dyne et al., 2012), we posit that sales representatives who are culturally intelligent (i) express their cognitive ability through perception and understanding similarities and differences in the cultural norms and values related with a different cultural setting (Ang et al. 2007), (ii) express meta-cognitive behavior, which is a mental model that borders on their ability to know when a perception about a particular person and/or culture needs to be revised for the purpose of meaningful interaction, (iii) express motivational ability through the level of interest, effort, emotion, and energy expressed in overcoming the cultural differences (Van Dyne et al., 2012) in a host community, (iv) and express behavioral ability, which is the capability to exhibit appropriate verbal and nonverbal actions when interacting with people from different cultures, which are most likely to excel in influencing positive behavioral and action loyalty. This is so because cultural factors such as values and customs, religion, law, respect for individual and national identity (Vitell, Nwachukwu, & Barnes, 1993) have been found to have a powerful influence on individuals' decisions. Therefore, when a sales representative expresses a positive social identity with a given culture or social group through their cultural intelligence capability, he/she is expecting to enjoy some in-group acceptance (Tajfel, 1978). Since people tend to respond and perform activities that are consistent with their social identity (Mael & Ashforth, 1992), we expect a reciprocal response that could translate into a positive group outcome, such as team cohesion, cooperation, and altruism among the in-group (Turner, 1982 in Miles, 2012), hence, increasing the behavioral loyalty and commitment (Miles, 2012). We therefore hypothesize that:

H1: Cultural intelligence has a positive effect on customers' behavioral loyalty

The mediating role of Customer Involvement

It has been established that external communication with stakeholders during product development is a key success factor (Freng Svendsen, Haugland, Grønhaug, & Hammervoll, 2011). This is based on the rationale that external communication increases the quality of the product development process (Brown and Eisenhardt, 1995), through the amount and quality of the information received from current and prospective users. It has been found to antecede customers' profitability (Freng Svendsen et al., 2011), the firm's innovation success (Moon, Johnson, Mariadoss, & Cullen, 2018), and the firm's performance (Anning-Dorson, 2018). Customer involvement is a form of external co-creational behavior aimed at increasing the amount and variety of information, which in turn increases the quality of the development of the organizational product, process and service (Svendsen et al., 2011). This is based on the conviction that customers are not just buyers and consumers of products and services, rather they have the ability to also engage in value co-creation with the firms (Cui & Wu, 2016). This ensures the customers' input in new product development (NPD).

Similarly, a study also discovered that the involvement of the customer in generating adverts triggers loyalty (Busser & Shulga, 2019 in Press). Consistent with reciprocity ideology, where a customer is involved in the co-creation of new products and services, he/she expresses loyalty to the very product that has his or her input (Kristensson, Matthing, & Johansson, 2008).

A cursory investigation of the role of cultural intelligence in customer involvement reveals a lack of empirical evidence despite the potential strong link between the constructs. Based on Ritter and Walter (2003), the mutual prefix, as used, depicts a shared value and common interest between or among the individuals relating to one another in a group. In addition, a study (Gabel-Shemueli., 2019) attributed employee engagement to leaders' cultural intelligence, thus supporting the anticipated relationship between cultural intelligence and customer involvement. We anticipate that sales representatives who are effective in cross-cultural interaction gain knowledge and a candid opinion from their customers about the product quality as well as customer concerns. Sales representatives who possess cognitive ability perceive and understand similarities and differences in the cultural norms and values related to different cultural settings (Ang et al. 2007). Since they understand the customer, they can easily obtain valuable input and feedback. Expressions of meta-cognitive behavior, on the other hand, disturb a sales representative's perception of a particular person or culture and this needs to be revised for the purpose of meaningful interaction. Motivational ability is the level of interest, effort, emotion, and energy expressed in overcoming cultural differences (Van Dyne et al., 2012) in a host community. This capability is expected to stimulate social interaction, thereby enhancing co-creation and customer involvement. Behavioral ability is the ability to exhibit appropriate verbal and nonverbal actions. This is expected to also stimulate customer engagement when interacting in a cross-cultural context. We posit that customers are at home with sales representatives who demonstrate a high level of adaptation, trust, and commitment (Ritter & Walter, 2003) in cross-cultural interactions, and are willing to offer their valuable inputs to the organization in a reciprocal gesture.

H2: Cultural intelligence has a positive effect on customer involvement

On the other hand, customer involvement has been indirectly found to influence customer loyalty through passive and active customer behavioral engagement (Izogo, & Mpinganjira, 2021). A similar study by Guan et al. (2021) also underscores the significance of customer experiences, such as social, functional and affective, in shaping their loyalty behavior. Where customers' experience inadequate bonding with the firm, in terms of their social, functional and affective bonding, they are likely to respond negatively toward the organization, thereby rescinding their loyalty. Consistent with the social exchange theory, which posits that parties engage and sustain exchange relationships with the expectation of a rewarding experience (Blau, 1964; Cropanzano, 2005), and where customers feel their inputs are valued in the area of product and service development, they reciprocate through behavioral loyalty. Since empirical pieces of evidence on the antecedent (Ritter & Walter, 2003; Gabel-Shemueli et al., 2019) as well as the outcomes (Freng et al., 2011; Moon, Johnson, Mariadoss, & Cullen, 2018) have demonstrated a potentially strong relationship with customer involvement; we therefore expect it to mediate the relationship between CI and BL. Thus, we posit the following hypotheses:

H3: Customer involvement has a positive effect on behavioral loyalty

H4: Customer involvement mediates the effect of cultural intelligence on behavioral loyalty

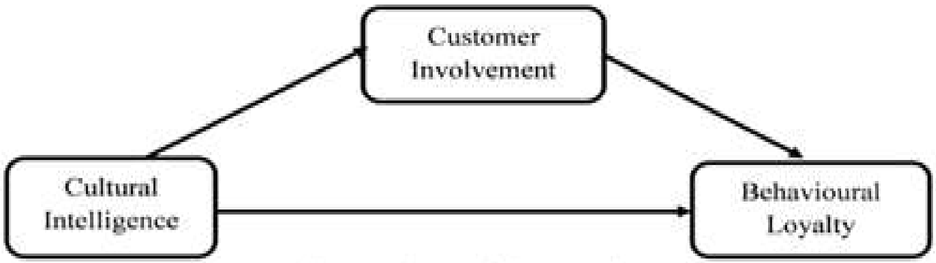

Figure 1. Research Model

Method

The participants in this study comprised of staff and customers from selected SMEs operating within North Central Nigeria. The region, besides its clement weather, is cosmopolitan and the hub of the country's agricultural business; as such, all ethnic groups in Nigeria were well represented. The study obtained data from multiple sources through two sets of questionnaires administered to two different groups of respondents: sales representatives and customers. Thus, sales representatives responded to the cultural intelligence measures while the customers responded to the customer involvement and behavioral loyalty scale. To ensure consistency, we relied on the sales representatives who responded to the cultural intelligence survey to obtain data from the customers in the territories they cover. Since the population of the customers was not easy to ascertain, we used the sample size determination formula by Cochran (1977), which was developed to calculate a representative sample for an unknown population. In all, a sample of 384 was drawn from the unknown pool of customers through the sales representatives, while 350 copies were administered to the sales representatives, based on the population of 65 manufacturing SMEs, with an average of 5.4 copies per SME. In all, 734 copies of the questionnaire were administered to the both sales representatives and the customers.

Measures

Cultural Intelligence: We measured this variable using the 19-item multidimensional scale adopted from Ang, Van Dyne, et al., (2007). There were four dimensions which included (i) cognitive CI, which was measured using a 6-item scale, which captured the level of the respondents' cross-cultural knowledge of certain economic, legal, political, and social aspects of different cultures and subcultures on a 5-point Likert-type scale with the following as samples, "I know the legal and economic systems of other cultures." "I know the cultural values and religious beliefs of other cultures." (ii) Meta-cognitive CI, was measured using a 4-item scale, which involved anticipating the cultural preferences of others and the adjustment of mental models, which was measured using a 4-point Likert-type scale. Examples of this included, “I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me,” “I check the accuracy of my cultural knowledge as I interact with people from different cultures.” (iii) Motivational CI was measured using a 5-item scale, which centers on the respondents’ ability to direct attention and energy toward learning about cultural differences was measured using the following: “I am confident that I can socialize with locals in a culture that is unfamiliar to me.” “I am sure I can deal with the stresses of adjusting to a culture that is new to me.” (iv) Behavioral CI was measured using a 5-item scale that assessed the respondents’ capability to exhibit appropriate verbal and nonverbal actions when interacting with different cultures. Samples included “I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.” “I use pauses in speech and silence differently, to suit different cross-cultural situations.”

Customer Involvement: This was assessed using a 4-item scale adapted from Chien and Chen (2010), which focused on the customers’ perceptions of how their ideas can improve product quality, design, and commercialization. It was measured on a 5-point Likert-type scale, with sample items like, “The company allows me to participate in the development process for the design and evaluation of its product.” “The company made it a duty to screen all the opinions provided by customers regarding product quality improvements.”

Customer behavioral loyalty: The measure was adapted from four out of the six items developed to assess behavioral loyalty by McMullan & Gilmore (2003). The reason we only used four was that two of the items seemed to measure disloyalty, hence were dropped. The items were measured on a 5-point Likert scale, with samples such as, “If I could buy any product, I would certainly buy this company’s product.” “I rarely switch from a known product to something else.”

Results

From the data collected, a total of 297 responses from the sales representatives and customers respectively, were found to be useable, making a total of 594 responses. The characteristics of the respondents showed that 54% and 44% of the sales representatives and customers, respectively, were males; 20% of the sales representatives were foreign nationals from outside Africa while 30% were from other African countries, excluding Nigeria. The remaining were Nigerians working outside of their cultural setting.

The analyses were conducted using partial least squares (PLS) software 3.2.8, a Variance-based SEM was relevant for the following reasons: PLS-SEM can be applied for exploratory research where “theory is less developed” (Hair, Hult, Ringle, & Sarstedt, 2017; Memon, Ting, Ramayah, Chuah, & Cheah, 2017). In addition, it can be used when the primary concern of the researcher is to predict as well as explain the target constructs and/or identify the constructs with the most influence (Hair et al., 2017b). Two models were evaluated, namely the measurement model, and the structural model.

Assessment of Common Method Variance

To conform with Podsakoff, MacKenzie, Lee, and Podsakoff (2003), we reduced the respondents' evaluation apprehension by assuring them of the confidentiality of their responses in a cover letter. This reduced the need to edit their responses, hence avoiding the social desirability that is typical in a study of this nature. In addition, two sets of the questionnaire were administered to two different groups of respondents, sales representatives and customers, to avoid the problem of obtaining data from the same source (Podsakoff, Mackenzie, & Podsakoff, 2012). Thus, the sales representatives responded to the cultural intelligence measures while the customers responded to the customer involvement and BL scale. We also ran a full collinearity assessment to test whether common method bias would be a concern in our study. This test was suggested by Kock and Lynn (2012) to assess the issue of common method bias. We first created a dummy variable using the random function in Excel, and then regressed all the constructs (including the dependent variable) in our research model against this common variable. The result, shown in Table 1, indicated that there was no serious concern as the VIFs were all below the threshold of 3.3.

Table 1. Full Collinearity

Cultural Intelligence	Customer Involvement	Behavioral Loyalty
1.980	3.033	2.804

Measurement Model

The model-fit was assessed to determine its standardized root mean residual (SRMR) and the normed fit index (NFI), based on the criteria of SRMR < 0.08 and NFI > 0.90. The current model revealed 0.061 and 0.972 for SRMR and NFI respectively, hence the model was accepted. We evaluated the measurement model by conducting a confirmatory factor analysis, and obtained the factor loading, the composite reliability (CR), and convergent validity as presented in the average variance extracted (AVE) (Hair et al., 2017), which is shown in Table 2. The results showed that the factor loadings were above the threshold of ≥ 0.7, the composite reliability (CR) ≥ 0.7, and the AVE ≥ 0.5 were greater than the threshold (Hair et al., 2017), hence our measurement was valid and reliable.

Table 2. Measurement Model

First Order	Second Order	Item	Loadings	CR	AVE
Behavioral Loyalty		AcLoyal1	0.763	0.887	0.664
		AcLoyal2	0.792		
		AcLoyal3	0.872		
		AcLoyal4	0.828		
Cust. Involvement		Cust1	0.811	0.88	0.648
		Cust2	0.733		
		Cust3	0.878		
		Cust4	0.792		
Behavioral		Behave1	0.881	0.922	0.703
		Behave2	0.844		
		Behave3	0.759		
		Behave4	0.827		
		Behave5	0.875		
Cognitive		Cog1	0.733	0.852	0.658
		Cog2	0.883		
		Cog5	0.810		
Meta-Cognitive		Meta1	0.754	0.894	0.68
		Meta2	0.910		
		Meta3	0.812		
		Meta4	0.815		
Motivation		Motive1	0.907	0.955	0.811
		Motive2	0.940		
		Motive3	0.957		
		Motive4	0.880		
		Motive5	0.811		
	Cultural Intelligence	Behavior	0.935	0.915	0.737
		Cognitive	0.572		
		Metacognitive	0.920		
		Motivation	0.948		

Note: *Cog3, Cog4, Cog6, Cust5 and Cust6 were deleted due to low loadings*

Discriminant validity was assessed to determine the dissimilarity of the constructs (Henseler, Ringle, & Sarstedt, 2014) in the model, using the heterotrait and monotrait (HTMT) criterion (Henseler et al., 2014). Henseler, Ringle, and Sarstedt (2015) demonstrated the superiority of this criterion in a Monte Carlo simulation study. Hence, this approach was preferred in this study. The results, shown in Table 3, indicated that discriminant validity was established among the constructs since all the values fell within the acceptable region of ≤ 0.85 (Franke & Sarstedt, 2019).

Table 3. Discriminant Validity (Heterotrait-Monotrait Criterion)

	1	2	3
1. Cultural Intelligence			
2. Customer Involvement	0.687		
3. Behavioral Loyalty	0.655	0.788	

Evaluation of the Structural Model

A bootstrapping procedure, using 5,000 re-sampling, was conducted to determine the standardized path coefficient (β). Other results expected from the analysis, according to Hair Jr et al. (2014) and Yeap et al. (2016), include; R^2, effect size f^2, and the predictive relevance Q^2.

The results of the path structural analyses are presented in Table 4, with the following salient findings: First, the relationship in Hypothesis 1 showed a significant relationship between cultural intelligence and behavioral loyalty. In Hypothesis 2, the link was strongly supported, suggesting that cultural intelligence influenced behavioral loyalty. Similarly, the third hypothesis linking customer involvement and customer behavioral loyalty revealed a significant relationship.

Table 4. Hypothesis Testing (Direct Effect)

Hyp	Relationship	STD Beta	STD Error	T-Stat	P value	f^2	VIF	Q^2	Decision
	Age Cust ->Behav..Loyalty	-0.033	0.061	0.543	0.587				Not Sig
	Gender Cust ->Behav. Loyalty	0.109	0.048	2.254	0.024				Significant
	culture ->Behav.. Loyalty	0.214	0.031	2.406	0.002				Significant
H1	cultural intel ->Behav. Loyalty	0.293	0.076	3.868	0.000	0.065	1.000		Supported
H2	cultural intel ->CustInvolve	0.680	0.064	10.621	0.000	0.860	1.000	0.272	Supported
H3	Cust Involve ->Behav. Loyalty	0.604	0.072	8.348	0.000	0.630	1.000	0.398	Supported

Note: *Cust=Customer, Behav=Behavioral, Intel=Intelligence, Involve=Involvement*

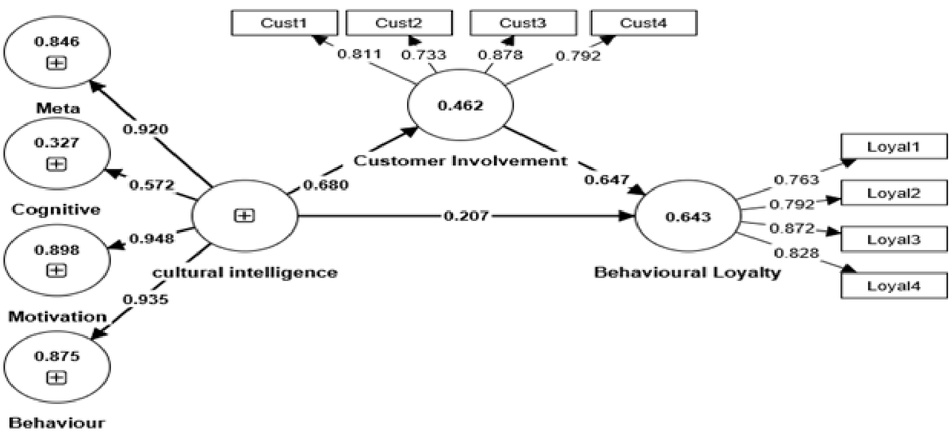

Figure 2. Structural Model

Similarly, R^2 (coefficient of determination), f^2, and Q^2 (effect size and predictive relevance) were evaluated in line with the PLS reporting requirements. The R^2 coefficient showed the model's predictive power (Hair et al., 2017), and the values for involvement ($R^2 = 0.462$, $Q^2 = 0.272$) and loyalty ($R^2 = 0.643$, $Q^2 = 0.398$) were considered moderate and substantial respectively, based on Cohen's (1988) criterion. Equidistantly, effect size (f^2), which is the influence of a latent variable on the structural model, was assessed and reported and the results under Cohen's criterion were weak but substantial. In addition, predictive relevance Q^2 was evaluated to determine the influence of the indicators on the structural model. A blindfolding procedure at a 7th omission distance was conducted, and the coefficients of 0.398 and 0.272 were considered to have strong and moderate effects, respectively (Hair et al., 2017). Furthermore, the analysis of the customers' biographic characteristics showed that gender and ethnic culture significantly influenced behavioral loyalty, while the age of the respondents was not significant.

The mediating role of customer-involvement was assessed using the Preacher and Hayes (2004; 2008) criteria to examine the significance of the indirect path in the model. Table 5 reveals the results of the mediating role of customer-involvement in the relationship between cultural intelligence and behavioral-loyalty. The indirect effect met the first condition, which suggested the possibility of a mediating relationship. Secondly, Preacher and Hayes' (2008) condition that zero must not straddle between the upper- and lower-class interval for mediation to occur was also met [BCI LL = 0.337, BCI UL = 0.532], signifying that customer involvement was a mediator.

Table 5. Hypothesis Testing (Indirect Effect)

Hypothesis	Relationship	Std Beta	Std Error	t-value	p-value	BCI LL	BCI UL
H4	CI → CuI → BL	0.439	0.061	7.181	0.000	0.337	0.532

Discussion

We evaluated the predictive role of cultural intelligence and the mediating role customer involvement had on behavioral loyalty. Paparoidamis et al. (2019) earlier evaluated the predictive role of perceived service quality and cultural intelligence as a mediator on the loyalty intention and called on future researchers to consider customer behavioral loyalty when furthering the debate. Interestingly, this study is among the first to empirically evaluate the role of sales representatives' cultural intelligence on customers' behavioral loyalty. Customer involvement plays a mediating role in this study. In line with this, we tested four hypotheses and the results are discussed accordingly.

First, the direct relationship between cultural intelligence and customers' behavioral loyalty was supported. This suggests that an increase in sales representatives' cultural intelligence should significantly increase customer loyalty. Although empirical evidence for this link is rare, the outcome is in tandem with our argument on the theoretical strength of social identity (Tajfel, 1978), which expects people to respond consistently to activities and organizations that are inclined toward their identity (Mael & Ashforth, 1992). Sometimes certain positive behavior is expressed toward members, with group identity (Turner, 1982 in Miles, 2012). The influence is extended to the organization that affiliates with the group (Miles, 2012). Hence, the relationship is positive and significant, as anticipated. In addition, the analysis of the customers' biographic data shows gender and ethnic culture as having a significant influence on behavioral loyalty, while the age of the customer does not. These results from the biographic data, besides justifying our choice of cultural intelligence as the predictor, also add the gender perspective to behavioral loyalty as a novelty in this study.

The mediating relationship explains the role of customer involvement, which was tested based on Preacher and Hayes's (2008; 2013) criterion, and was strongly supported, suggesting complementary mediation (Hair et al., 2017). This is a situation where both direct and indirect relationships are significant and point in the same direction. Thus, though the sales representatives' cultural intelligence has been established by this study as directly influencing customers' BL, the mediating role of customer involvement further crystallizes the mechanism that strengthens the relationship. It can also be noted that the indirect path linking cultural intelligence and customer involvement has not been empirically tested, as we did in this study, but a study has found cultural intelligence does associate positively with job engagement (Gabel-Shemueli et al., 2019), hence the rationale for our expectations.

The result of customer involvement, on the other hand, aligns with Freng Svendsen, Haugland, Grønhaug, and Hammervoll (2011), where external communication with stakeholders in product development relates well to success factors. It antecedes the quality of the product development process (Brown and Eisenhardt, 1995), customers' profitability (Freng Svendsen et al., 2011), firm's innovation success (Moon et al., 2018), and firm performance (Anning-Dorson, 2018).

Conclusion Limitations and Direction for Future Studies

Although the role of a sales representative is germane in attracting and retaining loyal customers (Echchakoui & Ghilal, 2019), evidence of a sales person's cultural intelligence in attracting customers' BL in a cross-cultural and intercultural setting remains unknown.

This paper offers a new insight by extending the growing literature on cultural intelligence into relationship marketing, to determine the extent to which it influences customer loyalty. We also determine the mechanism role of customer involvement within this new perspective. The results have substantial theoretical and managerial implications as follow:

We demonstrate, through the theoretical lens of the social identity and social exchange theories, the extent that cultural intelligence and customer involvement influence behavioral loyalty. In a study conducted on the intervening role of cultural intelligence between perceived service quality (PSQ) and loyalty intention, Paparoidamis et al. (2019) explored this through the social exchange theory. This study introduced social identity as a precursor to social exchange. We believe that cultural intelligence enhances the effectiveness of sales representatives' interactions in a diverse, multi-cultural, and multi-ethnic entity like Nigeria. Possession of such a unique success attribute stimulates cultural acceptance, which forms the basis for social identity (Billig & Tajfel, 1973).

Similarly, the results have a substantial managerial implication that touches on relationship management and human resource practices. First, the predictive role of cultural intelligence is significant to human resource practices in thatmanagers, when saddled with the implementation of HR strategies such as selection, placement, and training, could pay attention to this key success factor in relationship management, given its critical role in the customer loyalty model. For example, cultural intelligence's predictive battery should be developed and co-opted as one of the selection tools for frontline employees. In addition, like any other form of intelligence, it is not innate (Earley & Peterson, 2004); a training program designed to teach cross-cultural and intercultural interaction could further spur employee capability before deploying them on overseas or multicultural assignments (Earley & Peterson, 2004). In a similar study of subjective constructs, Narayanasamy (1999) proposed a program to enhance the teaching of the spiritual ability of nurses. Such a novel initiative is apt and could be replicated in other subjective aspects of human intelligence, such as cultural intelligence and emotional intelligence. This does not only help to inculcate critical cross-cultural abilities but ensures adaptability when dealing with people from multicultural backgrounds. Furthermore, the result of the role of customer involvement underscores the need for managers to strengthen external communication, since it has been established that external communication with stakeholders in product development is a key success factor (Freng Svendsen et al., 2011).

The literature on customer loyalty has shown extant research efforts on attitudinal or conative/intention loyalty. This study focuses on behavioral loyalty, which furthers the debate beyond the intention to loyal behavior. Paparoidamis et al. (2019) employed loyalty intentions as a measure to compare customer loyalty across different settings; they expressed reservations that the findings might not reflect actual loyalty behavior. We therefore explore BL, in response to that call in a cross-cultural setting, without bias toward the other three dimensions of loyalty. Subsequent studies could replicate the predictive effect of cultural intelligence on the four dimensions of customer loyalty (cognitive, attitudinal, behavioral, and conative) (McMullan & Gilmore, 2003).

Second, this study was conducted in the manufacturing sector, where products are standardized. As such, sales representatives' cultural intelligence is distinct from the product itself. Unlike the sale of services, such as hospitality and tourism, restaurant services, etc., where culture is hardly dissociated from the services dispensed, manufactured products are most often exclusive to one's culture. For example, issues such as eye contact in dealing with clients could mean sincerity in the West, yet it could be interpreted as rudeness when relating with a superior client in Africa. In addition, emotional management in service delivery could be culturally influenced. We therefore call for the replication of this study in a service industry, where the sales representatives' personal culture forms part of how services are dispensed to customers, whose culture they try to articulate.

Furthermore, since the relationship between cultural intelligence and behavioral loyalty is established under the intervening role of customer involvement, further investigation could evaluate employee-related mechanisms in a service industry. Issues like emotional intelligence and spiritual intelligence have been found to enhance caregiving among nurses (Kaur, Sambasivan, & Kumar, 2013). Therefore, we expect that this will serve as a coping mechanism in a multicultural setting, thereby enhancing service delivery and customer loyalty. Finally, ethnic culture and gender are found to impinge on behavioral loyalty. Future research in this area could consider controlling the influence of this biographic data on the research outcome.

References

Ackerman, P. L. (1996). A theory of adult intellectual development: Process, personality, interests, and knowledge. *Intelligence, 22*(2), 227–257.

Akroush, M. N., & Mahadin, B. K. (2019). An intervariable approach to customer satisfaction and loyalty in the internet service market. *Internet Research.*

Albert, N., Merunka, D., & Valette-Florence, P. (2013). Brand passion: Antecedents and consequences. *Journal of Business Research, 66*(7), 904–909.

Ang, S., Dyne, L. Van, Koh, C., Ng, K. Y., Templer, K. J., Tay, C., & Chandrasekar, N. A. (2007). Cultural Intelligence. *Management and Organization Review, 3*(3), 335–371.

Ang, S., Van Dyne, L., Koh, C., Ng, K. Y., Templer, K. J., Tay, C., & Chandrasekar, N. A. (2007). Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation, and task performance. *Management and Organization Review, 3*(3), 335–371.

Anning-Dorson, T. (2018). Customer involvement capability and service firm performance: The mediating role of innovation. *Journal of Business Research, 86*, 269–280.

Banik, S., Gao, Y., & Rabbanee, F. K. (2019). Status demotion in hierarchical loyalty programs and its effects on switching : Identifying mediators and moderators in the Chinese context. *Journal of Business Research, 96*(November 2018), 125–134.

Billig, M., & Tajfel, H. (1973). Social categorization and similarity in intergroup behaviour. *European Journal of Social Psychology, 3*(1), 27–52.

Blau, P. M. (1964). *Exchange and power in social life.* Transaction Publishers.

Bloemer, J., & De Ruyter, K. (1998). On the relationship between store image, store satisfaction and store loyalty. *European Journal of Marketing, 32*(5/6), 499–513.

Busser, J. A., & Shulga, L. V. (2019). Involvement in consumer-generated advertising: Effects of organizational transparency and brand authenticity on loyalty and trust. *International Journal of Contemporary Hospitality Management.*

Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of Marketing, 65*(2), 81–93.

Cheng, B. L., Gan, C. C., Imrie, B. C., & Mansori, S. (2018). Service recovery, customer satisfaction and customer loyalty: evidence from Malaysia's hotel industry. *International Journal of Quality and Service Sciences.*

Chien, S.-H., & Chen, J. (2010). Supplier involvement and customer involvement effect on new product development success in the financial service industry. *The Service Industries Journal, 30*(2), 185–201.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences 2nd edn. Erlbaum Associates, Hillsdale.

Cropanzano, R. and M. S. M. (2005). Social Exchange Theory: An Interdisciplinary Review. *Journal of Management, 31*(6), 874–900.

Cui, A. S., & Wu, F. (2016). Utilizing customer knowledge in innovation: antecedents and impact of customer involvement on new product performance. *Journal of the academy of marketing science, 44*(4), 516-538.

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration. *British Journal of Management, 17*(4), 263–282.

Dominique-Ferreira, S., Vasconcelos, H., & Proença, J. F. (2016). Determinants of customer price sensitivity: an empirical analysis. *Journal of Services Marketing, 30*(3), 327–340.

Earley, P. C., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures.* Stanford University Press.

Earley, P. C., & Mosakowski, E. (2004). Toward culture intelligence: turning cultural differences into a workplace advantage. *Academy of Management Perspectives, 18*(3), 151–157.

Earley, P. C., & Peterson, R. S. (2004). The elusive cultural chameleon: Cultural intelligence as a new approach to intercultural training for the global manager. *Academy of Management Learning & Education, 3*(1), 100-115.

Echchakoui, S., & Ghilal, R. (2019). How sales managers can use salespeople ' s perceived attributes to monitor and motivate a sales force during relationship marketing. *European Research on Management and Business Economics, 25*(2), 99–104.

Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology, 2*(1), 335–362.

Eng, T.-Y., & Jin Kim, E. (2006). An examination of the antecedents of e-customer loyalty in a Confucian culture: The case of South Korea. *The Service Industries Journal, 26*(4), 437–458.

Evanschitzky, H., Ramaseshan, B., Woisetschläger, D. M., Richelsen, V., Blut, M., & Backhaus, C. (2012). Consequences of customer loyalty to the loyalty program and to the company. *Journal of the Academy of Marketing Science, 40*(5), 625–638.

Fara, Azmat & Huong, H. (2013). Corporate Social Responsibility , Customer Trust , and Loyalty — Perspectives from a Developing Country. *Thunderbird International Business Review, 55*(3), 253–270.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research,* 382–388.

Franke, G., & Sarstedt, M. (2019). Heuristics versus statistics in discriminant validity testing: a comparison of four procedures. *Internet Research.*

Freng Svendsen, M., Haugland, S. A., Grønhaug, K., & Hammervoll, T. (2011). Marketing strategy and customer involvement in product development. *European Journal of Marketing, 45*(4), 513–530.

Gabel-Shemueli, R., Westman, M., Chen, S., & Bahamonde, D. (2019). Does cultural intelligence increase work engagement? The role of idiocentrism-allocentrism and organizational culture in MNCs. *Cross Cultural & Strategic Management, 26*(1), 46–66.

García-Fernández, J., Martelo-Landroguez, S., Vélez-Colon, L., & Cepeda-Carrión, G. (2018). An explanatory and predictive PLS-SEM approach to the relationship between organizational culture, organizational performance and customer loyalty: The case of health clubs. *Journal of Hospitality and Tourism Technology, 9*(3), 438–

454.

Gómez, M., Consuegra, D. M., & Díaz, E. (2017). Determinants and outcomes of price premium and loyalty : A food case study, (March), 1–11.

Guan, J., Wang, W., Guo, Z., Chan, J. H., & Qi, X. (2021). Customer experience and brand loyalty in the full-service hotel sector: the role of brand affect. *International Journal of Contemporary Hospitality Management. Vol. 33 No. 5,* pp. 1620-1645. https://doi.org/10.1108/IJCHM-10-2020-1177

Hair Jr, J.F, Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM) An emerging tool in business research. *European Business Review, 26*(2), 106–121.

Hair, J F, Hult, T. M., Ringle, C. M., & Sarstedt, M. (2017). A primer on partial least squares structural equation modeling . Thousand Oakes. CA: Sage.

Hair, Joe F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *The Journal of Marketing Theory and Practice, 19*(2), 139–152.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2013). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.

Hall, E. T. (1960). The silent language in overseas business. *Harvard Business Review, 38*(3), 87–96.

Henseler, Jörg, Ringle, C. M., & Sarstedt, M. (2014). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135.

Henseler, Jörg, Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial Management & Data Systems, 116*(1), 2–20.

Henseler, Jörg, Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135.

Hwang, Y. H., & Mattila, A. S. (2018). Is It My Luck or Loyalty? The Role of Culture on Customer Preferences for Loyalty Reward Types. *Journal of Travel Research, 57*(6), 769–778.

Iglesias, O., Markovic, S., Bagherzadeh, M., & Singh, J. J. (2018). Co-creation: A key link between corporate social responsibility, customer trust, and customer loyalty. *Journal of Business Ethics*, 1–16.

Izogo, E. E., & Mpinganjira, M. (2021). Social media customer behavioral engagement and loyalty among hotel patrons: does customer involvement matter?. *International Journal of Tourism Cities.Vol. 8 No. 3*, pp. 636-657. https://doi.org/10.1108/IJTC-04-2021-0070

Kandampully, J., & Zhang, T. C. (2015). Customer loyalty : a review and future directions with a special focus on the hospitality industry. *International Journal of Contemporary Hospitality Managemen, 27*(3), 379–414.

Kaur, D., Sambasivan, M., & Kumar, N. (2013). Effect of spiritual intelligence, emotional intelligence, psychological ownership and burnout on caring behaviour of nurses: A cross-sectional study. *Journal of Clinical Nursing, 22*(21–22), 3192–3202.

Kaur, P., Dhir, A., Chen, S., & Rajala, R. (2019). Attitudinal and Behavioral Loyalty Toward Virtual Goods Attitudinal and Behavioral Loyalty Toward Virtual Goods. *Journal of Computer Information Systems, 00*(00), 1–12.

Kock, N., & Lynn, G. (2012). Lateral collinearity and misleading results in variance-based SEM: an illustration and recommendations. *Journal of the Association for Information Systems, 13*(7), 546–580.

Kristensson, P., Matthing, J., & Johansson, N. (2008). Key strategies for the successful involvement of customers in the co-creation of new technology-based services. *International Journal of Service Industry Management, 19*(4), 474–491.

Lai, F., Griffin, M., & Babin, B. J. (2009). How quality, value, image, and satisfaction create loyalty at a Chinese telecom. *Journal of Business Research, 62*(10), 980–986.

Lee, J.-S., Kim, S., & Pan, S. (2014). The role of relationship marketing investments in customer reciprocity. *International Journal of Contemporary Hospitality Management, 26*(8), 1200–1224.

Lemy, D., Goh, E., & Ferry, J. (2019). Moving out of the silo: How service quality innovations can develop customer loyalty in Indonesia's hotels. *Journal of Vacation Marketing*, 1356766718819658.

Lenka, U., Suar, D., & Mohapatra, P. K. J. (2009). Service quality, customer satisfaction, and customer loyalty in Indian commercial banks. *The Journal of Entrepreneurship, 18*(1), 47–64.

Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior, 13*(2), 103–123.

Magnusson, P., Westjohn, S. A., Semenov, A. V, Randrianasolo, A. A., & Zdravkovic, S. (2013). The role of cultural intelligence in marketing adaptation and export performance. *Journal of International Marketing, 21*(4), 44–61.

McMullan, R., & Gilmore, A. (2003). The conceptual development of customer loyalty measurement: A proposed scale. *Journal of Targeting, Measurement and Analysis for Marketing, 11*(3), 230–243.

Memon, M. A., Ting, H., Ramayah, T., Chuah, F., & Cheah, J. H. (2017). A review of the methodological misconceptions and guidelines related to the application of structural equation modeling: A Malaysian scenario. *Journal of Applied Structural Equation Modeling, 1*(1), 1–13.

Miles, J. A. (2012). *Management and organization theory: A Jossey-Bass reader* (Vol. 9). John Wiley & Sons.

Moon, H., Johnson, J. L., Mariadoss, B. J., & Cullen, J. B. (2018). Supplier and Customer Involvement in New Product Development Stages: Implications for New Product Innovation Outcomes. *International Journal of Innovation and Technology Management, 15*(01), 1850004.

Narayanasamy, A. (1999). ASSET: a model for actioning spirituality and spiritual care education and training in nursing. *Nurse Education Today, 19*(4), 274–285.

Nunally, J. C., & Bernstein, I. H. (1978). Psychometric Theory. New York: McGraw-Hill.

Ogoanah, F. (2012). Language Matters : Studies in the Languages of Africa The evolution of national vocabulary in Nigeria : Implications for national cultural integration. *Studies in the Languages of Africa, 43*(2), 146–165.

Ojo, O. V. (2016). ETHNIC DIVERSITY IN NIGERIA : A PURVIEW OF MECHANISM FOR NATIONAL INTEGRATION. *Afro Asian Journal of Social Sciences, VII*(III), 1–13.

Ostrowski, P. L., O'Brien, T. V, & Gordon, G. L. (1993). Service quality and customer loyalty in the commercial airline industry. *Journal of Travel Research, 32*(2), 16–24.

Palmatier, R. W., Jarvis, C. B., Bechkoff, J. R., & Kardes, F. R. (2009). The role of customer gratitude in relationship marketing. *Journal of Marketing, 73*(5), 1–18.

Pan, Y., Sheng, S., & Xie, F. T. (2012). Antecedents of customer loyalty: An empirical synthesis and reexamination. *Journal of Retailing and Consumer Services, 19*(1), 150–158.

Paparoidamis, N. G., Tran, T. T. H., & Leonidou, C. N. (2019). Building customer loyalty in intercultural service encounters: the role of service employees' cultural intelligence. *Journal of International Marketing.*

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879.

Podsakoff, P. M., Mackenzie, S. B., & Podsakoff, N. P. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*(4), 717–731.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research*

Methods, 40(3), 879–891. https://doi.org/10.3758/BRM.40.3.879
Ritter, T., & Walter, A. (2003). Relationship-specific antecedents of customer involvement in new product development. *International Journal of Technology Management, 26*(5–6), 482–501.
Seiders, K., & Berry, L. L. (1998). Service fairness: What it is and why it matters. *Academy of Management Perspectives, 12*(2), 8–20.
Shankar, A., & Jebarajakirthy, C. (2019). The influence of e-banking service quality on customer loyalty: A moderated mediation approach. *International Journal of Bank Marketing.*
Shankar, V., Smith, A. K., & Rangaswamy, A. (2003). Customer satisfaction and loyalty in online and offline environments. *International Journal of Research in Marketing, 20*(2), 153–175.
Svendsen, M. F., Haugland, S. A., Grønhaug, K., & Hammervoll, T. (2011). Marketing strategy and customer involvement in product development. *European Journal of Marketing.Vol. 45 No. 4*, pp. 513-530. https://doi.org/10.1108/03090561111111316
Tajfel, H. (1978). *Intergroup behavior. Introducing Social Psychology.*–NY: Penguin Books, 401–466.
Van Dyne, L., Ang, S., & Livermore, D. (2010). Cultural intelligence: A pathway for leading in a rapidly globalizing world. In *Leading across differences* (pp. 131–138).
Van Dyne, L., Ang, S., Ng, K. Y., Rockstuhl, T., Tan, M. L., & Koh, C. (2012). Sub-dimensions of the four factor model of cultural intelligence: Expanding the conceptualization and measurement of cultural intelligence. *Social and Personality Psychology Compass, 6*(4), 295–313.
Vinita Kaura Ch. S. Durga Prasad Sourabh Sharma. (2015). *International Journal of Bank Marketing, 33*(4), 404–422.
Vitell, S. J., Nwachukwu, S. L., & Barnes, J. H. (1993). The Effects of Culture on Ethical Decision-Making : An Application of Hofstede ' s Typology. *Journal of Business Ethics 12: 753--760,12*(10), 753–760.
Wong, A., & Sohal, A. (2003). Service quality and customer loyalty perspectives on two levels of retail relationships. *Journal of Services Marketing, 17*(5), 495–513.
Xie, K. L., & Chen, C.-C. (2013). Progress in loyalty program research: Facts, debates, and future research. *Journal of Hospitality Marketing & Management, 22*(5), 463–489.
Yeap, J. A. L., Ramayah, T., & Soto-Acosta, P. (2016). Factors propelling the adoption of m-learning among students in higher education. *Electronic Markets*, 1–16.

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Examination of Consumers' Perceived Quality and Willingness to Buy in the Context of Price Variability and Frequency of Price Change: A Study of Retail Products

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Abstract: Marketing managers are able to influence consumers' perceptions of quality and their willingness to buy, using the frequency of price changes and price variability. This study aims to examine the differences in the frequency of price changes and price variability, in terms of the perceived quality and the willingness to buy. For this purpose, using values calculated according to the average and standard deviation of the market price of a specified product, we obtained two different price variations, $\pm 1\sigma$ and $\pm 2\sigma$, and price stimuli determined at two different frequencies of price changes (three and seven times were considered), which resulted in four different participant groups. At the end of the study, a statistically significant difference was only found between consumers in the low price variability and infrequent price change condition and consumers in the high price variability and infrequent price change condition, in terms of the perceived quality.

Keywords: frequency of price changes, price variability, perceived quality, willingness to buy

JEL Classification: M3, M31

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Introduction

Price is an important stimulus in consumers' purchase decisions and hence, it has a direct effect on companies' profits. Businesses try to influence their customers by making changes in the prices of the products or services they offer. Specifically, in retailing, pricing strategies have become an important part of making business decisions; thus promotions, discounts, and markdowns are frequently employed by retailers to boost consumer demand (Jung, Park, and Choi, 2018, p. 291). Price changes were expressed as price promotions or price discounts in previous studies (Gupta and Cooper, 1992; Jedidi, Mela, and Gupta, 1999; Putler, 1992; Rao, 1984). The pricing tactics they used need to be examined from a systematic point of view. Marketing managers may make price changes for different reasons, such as responding to changes in inventory or changes in costs on the supply side or offering lower prices on products as promotions to attract customers, especially in light of the current promotion overload (Murthi, Haruvy, and Zhang, 2007, p. 1; Nirmala and Dewi, 2011, p. 80; Bellini and Aiolfi, 2019, p. 14). At this point, price variability and the frequency of price changes need to be discussed in terms of the influence they have on consumers' decisions. Here, price variability indicates the width of the price changes' range, and the frequency of price changes refers to the frequency of price increases and decreases in a certain period. In response to the price variability and the frequency of price changes, consumers can stockpile, adjust their purchase quantity, or postpone their purchase (Ho, Tang, and Bell, 1998). The frequency of promotions has an impact on the internal reference price. The high price variability of a product may cause internal reference price uncertainty (Caputo, Lusk, and Nayga, 2020). Thus, price variability and the frequency of price changes may be an important influence on consumers' purchase decisions (Kalyanaram and Winer, 2022).

Among many factors influencing consumers' buying decision making, price is one of the most crucial factors with its dual role, which may be categorized as the sacrifice effect and the information effect (Völckner, 2008). While the sacrifice effect of price means a sense of monetary loss for consumers, which they have to forgo in exchange for the product or service, according to the information effect of price, price is seen as an indicator of quality (Cui, Wajda, and Hu, 2012; Mayasari, Haryanto, Wiadi, Wijanarko, and Abdillah, 2022). As an opposite view of the classical economic theoretical assumption, Scitovsky (1944-45) stated that consumers may not have the necessary information about the quality of the product's offerings, and claimed that quality can be judged by the available information, such as price. Although low-priced products may appear attractive for consumers to buy, they may also be considered less attractive because of their suspected inferior quality. Quality perception is expected to vary directly with the price (Stafford and Enis, 1969). Thus, it can be said that consumers' quality perception of products depends on the structure of the price distribution.

Previous research has focused on the pricing strategy (or price information) in different concepts, such as price promotion depth, price promotion frequency, promotional pattern, or deal frequency (e.g., Krishna, 1994; Mela and Urbany, 1997; Grewal, Krishnan, Baker, and Borin, 1998; Lee and Lim, 2009). These studies mostly associate price information with the perceived quality and buying intention (Rao and Sieben, 1992). A recent similar experimental study, in which Prakash and Spann (2022) systematically manipulated two dimensions of dynamic price variation (amplitude and frequency), suggested the exploration of the impact of quality on retailers pricing practices. Perceived quality and the willingness to buy products are related to both the price level and price differential (Deering and Jacoby, 1972). A product priced below or above the absolute price thresholds (or limits) would be less likely to produce a willingness to buy response (Kosenko and Rahtz, 1988). For instance, when the price of a product falls below the lower price limit, its perceived quality is thought to be relatively low. Accordingly, the willingness to buy is relatively low when the price is unacceptably low for acceptable prices.

To our knowledge, the empirical evidence for the effects of both price variability and the frequency of price changes on the perceived quality and willingness to buy is quite meager. Therefore, this study aims to examine the differences in the prices of the products purchased by consumers, and the variability in these prices in terms of the perceived quality and willingness to buy. In a price knowledge survey, Vanhuele and Drèze (2002) selected representative product categories from a national store panel of approximately 300 product categories. Among these product categories, toilet paper has been found to be in the high price variability, low product variety, and narrow price ranges category. Considering the study of Vanhuele and Drèze (2002), toilet paper was found appropriate for serving as the product stimuli of this study. Next, after a review of the background literature, research hypotheses are proposed. In the third section of the article, the research methodology used to test the research hypotheses is described. Then, the research hypotheses are tested, and the research results are explained. In the final section of the article our findings are stated, along with their implications for researchers who are concerned with price changes and marketing managers who plan pricing applications, which concludes the paper.

Literature Review

Various marketing studies examining the effects of price on consumer behavior have been conducted (for example, Alford and Biswas, 2002; Rao and Monroe, 1989; Dodds and Monroe, 1985; Johnson, Herrmann, and Bauer, 1999). Within the existing academic research on price, interest in price promotions has increased because retailers also notice the encouraging effects of price promotions on the purchasing behavior of consumers (Walters and MacKenzie, 1988; Mulhern and Padgett, 1995; Shaddy and Lee, 2020). Price promotion is defined as "temporary price discounts offered to a customer" by Blattberg, Briesch, and Fox (1995, p. 122). In this way, promotion is related to a reduction in the price of a product from its current price. Jedidi et al. (1999) stated that price promotion has two dimensions, which are frequency and depth. Alba, Mela, Shimp, and Urbany (1999) named frequency and depth as pricing patterns. While promotion frequency is defined as the average number of times an individual product is promoted over a specified period, promotion depth refers to the percentage reduction in the price from the existing price (Allender and Richards, 2012, p. 324).

The price promotion strategies that marketers use intensively raise important issues regarding the consumers' purchasing decision process (Lattin and Bucklin, 1989; Gijsbrechts, 1993; Sinha and Smith, 2000). It is known that people evaluate observed price changes by comparing those prices to an internal reference price (Lehtimäki, Monroe, and Somervuori, 2019). In other words, a consumer has a frame of reference for acceptable prices, in which the price information is encoded and interpreted (Sorce and Widrick, 1991). Small price changes that are close to the reference prices of consumers will cause price insensitivity and this price change will not be noticed by consumers (Kalyanaram and Little, 1994). Therefore, if the price changes made over the internal reference price levels of the consumers are above a certain threshold, it may affect their purchasing behavior (Han, Gupta, and Lehmann, 2001, p. 436). In addition, it is known that consumers think more about purchasing decisions and do more research on product categories with high price variability, or frequent promotions (Mehta, Rajiv, and Srinivasan, 2003).

Kumar and Pereira (1995:156) stated that the effect of price promotion frequency on a given promotion is unclear (e.g., may be positive or negative). Frequent discounts on products will increase the price threshold for discounts so that the same level of discount will be insufficient to affect the buying behavior of consumers (Han, Gupta, and Lehmann, 2001, p. 436). Although frequent discounts are thought to be beneficial in the short term, as they may lower the reference price in the consumer's mind, they will harm brand promotion activities in the long term (Jedidi, Mela, and Gupta, 1999). For example, in their experimental studies, Kalwani and Yim (1992), who examined the effect of price promotion frequency and price discount depth on the expected price, found that there were differences in the context of consumers' price expectations between price promotions three and seven times in a given period.

The distribution of market prices faced by consumers can affect their buying decisions (Meyer and Assuncao, 1990). It is found that the direction of a price change (i.e.

increase or decrease) within the level and width of the acceptable price range of the individual is acceptable (Mazumdar and Jun, 1993). The price level can be seen as similar to the central tendency in the distribution of acceptable prices; variability in market prices would influence consumers' price uncertainty and also the acceptable price range (Lichtenstein, Bloch, and Black, 1988; Mazumdar and Jun, 1993). Mazumdar and Jun (1992) argue that the expansion of the acceptable price range, arising from price volatility, is mainly due to an upward change in the upper limit of acceptable prices rather than a downward shift in the lower limit of acceptable prices. Not only can individuals vary in how large a range of prices they find acceptable, but also in whether this range is centered almost at the same point (Rao and Sieben 1992, p. 257). On the other hand, Helsen and Schmittlein (1992) found that regular large price variability is related to increased price responsiveness and being more attentive to customers. They also concluded that deal frequency is related to store traffic, thus it is suggested that manipulation of the dealing frequency and/or deal price variability may have an effect on consumer purchase behavior.

Although the price is known as the indicator of the monetary amount that consumers pay for goods/services, it is also supported by research that the price is an indicator of the level of quality (Dodds and Monroe, 1988; Monroe and Krishnan, 1985; Peterson and Wilson, 1985; Zeithaml, 1988; Park, Lalwani, and Silvera, 2020). Perceived quality, which can be evaluated differently from objective quality, is the personal judgment of the consumer about the overall excellence or superiority of the product, which contains abstract thoughts (Zeithaml, 1988, p. 3). High-priced products are considered to be high quality, thus they lead to a greater willingness to buy them (Rao and Monroe, 1989; Scitovsky, 1944-45; Dodds, Monroe, and Grewal, 1991). The use of price as a quality cue can shift, depending on different factors such as the product's domain (Boyle, Kim, and Lathrop, 2018). For example, according to Völckner and Hofmann (2007), the perceived price-quality relationship is less for durable items than for non-durable items.

Since price promotions decrease prices, and lower prices are related to lower quality, there is reason to assume that price promotions also lead to lower quality inferences (Raghubir and Corfman, 1995; Darke and Chung, 2005; Chae, 2020). While the depth of the price promotion will rapidly increase sales, the long-term reputation for quality can be damaged. In contrast, low-depth promotion would cause relatively less damage to the perceived quality (Hsu, Huan, Guntoro, and Thongma, 2014). The quality of the infrequently promoted brands would also tend to be judged more favorably (Lalwani, Wang, and Silvera, 2021).

Because the goal of this research is to look at the differences in the pricing of products purchased by consumers, as well as the variety in these prices, in terms of their perceived quality and the consumers' willingness to pay, four conditions were defined for the treatment groups: low price variability-infrequent price variation, low price variability-frequent price variation, high price variability-infrequent price variation, high price variability-frequent price variation. Thus, the following hypothesis is developed:

H1: There is a statistically significant difference between the groups examined in the study, in terms of perceived quality.

The frequency and depth of price changes applied by businesses may affect the purchasing behavior of consumers. Meyer and Assuncao (1990) conducted a study to reveal the behavioral process of consumers when faced with rising prices; they found there was a growing tendency to delay purchases, but accelerate purchases when prices fell. For example, Della Bitta, and Monroe (1981) concluded that the discount threshold should be 15%, and Harlam, Krishna, Lehmann, and Mela (1995) said the discount rate should be at least 20% for directing consumers to purchase. Jedidi, Mela, and Gupta (1999) also found that a high level of discounts has more impact on consumers' brand selection and the number of purchases compared to frequent discounts. Thus, the second hypothesis is as follows:

H2: There is a statistically significant difference between the groups examined in the study, in terms of willingness to buy.

Methods

To combine the different conditions in which the price variability and the frequency of price change measures were taken, a 2x2 between-subjects experimental design was used for the study. A survey was applied to four groups, containing 90, 91, 98, and 97 people, who were all given a questionnaire. All 376 questionnaires were completed and contained usable data. The data collection procedure was carried out in two stages. In the first stage, each participant was exposed to a stimulus containing a visual of the product (branded toilet paper) and they were then asked to respond to questions about the internal reference price of the product. Because of its high price variability, low product assortment, and narrow price range (Vanhuele and Drèze, 2002), toilet paper was chosen as it was considered to be suitable for the variables in this study. Also, it is known that toilet paper is in the easy-to-stockpile category (Narasimhan, Neslin, and Sen, 1996), thus it will be easy to observe the participants' responses to changes in its price in this study.

According to the adaptation level theory by Helson (1964), an individual will judge external price information using an internal standard, such as the mean of observed market prices. The internal reference price is considered as the covariance variable of the research, since the product serves as a point of comparison for past prices (Han, Gupta, and Lehmann, 2001), which are stored in the consumer's mind. By including the internal reference price as an analysis of the covariance variable, a factor that may have had an impact on the findings related to the research variables could be eliminated by creating a difference between the consumers participating in the research.

In the second stage of the research, each participant was randomly assigned to one of the four questionnaires, each with different price stimuli, where the price of a consumption product (toilet paper) was determined by two different frequencies of price change and two different price variability ranges over a 10 week period. The two levels of frequency for the change in price were three and seven. The two levels of price variability were in the range of ±1σ and ±2σ of the average market price of toilet paper. Winer (1989) called price variation "reference price uncertainty" and for a period, the reference price uncertainty variable was calculated simply as the standard deviation of the reference prices. Similar to the procedure in the study by Winer (1989), a series of calculations were made for the price stimulus in each questionnaire to be applied. Firstly, the average price of the product was calculated using the current market prices of nine different supermarkets, and 29 virtual markets selling the item. Next, considering the average and standard deviation values (σ) obtained from the price data, two levels of frequencies of price changes (three and seven times) were randomly derived from the average price value obtained in the range of ±1σ and ±2σ, each one different from the others. The differently derived prices for each participant were obtained through a mathematical software package. Therefore, in this research, the frequency of price changes and the price variability were provided for the prices used as stimuli. The participants were asked to assume they wanted to buy branded toilet paper, and they were allowed to examine the prices for that item over the previous 10 weeks. The prices were in large font so they would be noticeable and memorable. The prices provided to the participants did not trend in a certain direction (increase or decrease) in order for them to not be influenced by too many factors, because, the direction of price change is known to be the strongest determinant for the difference in consumers' evaluations of the different number of price changes (Mazumdar and Jun, 1993). On the other hand, customers tend to perceive higher prices as signs of a higher quality; this higher quality is equated with higher price increases (Yang, Sun, Lalwani, and Janakiraman, 2019). Following the manipulation of the prices according to the frequency and price variability, the participants' perceived quality, and their willingness to buy the product were measured. By providing clear instructions, the participants were asked to complete the survey accordingly.

University students are a suitable sample for studying consumer behavior since they are known as effective surrogates for general consumers with significant buying power (Fan, Liu, and Zhang, 2013; Cho and Workman, 2011). Thus, the sample for this research consisted of university students and was selected through convenience sampling. The data used in the research were obtained through face-to-face interview techniques and questionnaires; this was all done during class hours in March and April of 2020. The research was composed of four questions used by Chandrashekaran and Jagpal (1995) to measure the internal reference price, 5-item scales to measure the perceived quality, and five items to measure the willingness to buy, which were previously used by Dodds, Monroe, and Grewal (1991). To suit the function of the scales used in the current research context, some modifications and minor adaptations were made. Scale items for perceived quality and for willingness to buy were measured on a 7-point Likert-type scale, varying from 1 = "strongly disagree" to 7 = "strongly agree." This was similar to previous studies where the scale items were used. The internal reference price was assessed by asking the subjects to fill in the blanks in a set of open-ended questions, such as "I think a FAIR PRICE for the toilet paper shown would be ____."

Results

Validity and Reliability of the Scales

The scales used in the research should be justified, and the decomposition validity and convergent validity should be provided to verify the test interpretation or to establish the construct validity. Thus, confirmatory factor analysis (CFA) was used to examine the factor structure of the items and also to evaluate the validity of the scales used in ANCOVA. The SPSS AMOS program was used to perform a confirmatory factor analysis on the data obtained in the study. In this confirmatory factor analysis, CMIN/DF, GFI, TLI, CFI, RMR, and RMSEA were used to test the goodness of fit. As a result of the confirmatory factor analysis, CMIN / DF = 1.801 ≤ 3 (p = 0.000 < 0.001), CFI = 0.985 ≥ 0.9, IFI = 0.985 ≥ 0.9, and RMSEA = 0.046 ≤ 0.05 values were obtained. The wellness indices calculated as a result of CFA showed that the research scales had a good fit (Schermelleh-Engel, Moosbrugger, and Müller, 2003).

Table 1. Confirmatory Factor Analysis Results

Variable	Item	Factor Loadings	AVE	CR
Internal Reference Price (IRP)	Fair price	0.823	0.758	0.926
	Lowest price seen	0.863		
	Highest price willing to pay	0.887		
	Normal price	0.908		

Perceived Quality (PQ)	The likelihood that the product would be reliable is (very high to very low)	0.835	0.655	0.903
	The workmanship of product would be (very high to very low)	0.798		
	This product should be of (very good quality to very poor quality)	0.905		
	The likelihood that this product is dependable is (very high to very low)	0.877		
	This product would seem to be durable (strongly agree to strongly disagree)	0.595		
Willingness to Buy (WTB)	The likelihood of purchasing this product is (very high to very low)	0.892	0.586	0.870
	If I were going to buy this product, I would consider buying this model at the price shown (strongly agree to strongly disagree)	0.920		
	At the price shown, I would consider buying the product (strongly agree to strongly disagree)	0.853		
	The probability that I would consider buying the product is (very high to very low)	0.512		
	My willingness to buy the product is (very high to very low)	0.548		

Fornell and Larcker (1981) stated that, as a conservative estimator of convergence validity, the average variance extracted (AVE) should be higher than 0.5. From Table 1, it can be said that the convergence validity of the constructs used in the study was sufficient. Discriminant validity shows the level of separation of different variables from each other. In order to provide discriminant validity, the relationship between variables and other variables should be of low value. In this respect, the square root values of the average variance extracted (AVE) value of a scale should be greater than the correlation coefficient values of the relevant scale with other scales examined in the study (Fornell and Larcker, 1981, p. 46).

Table 2. Relationships Between Variables and The Square Root Values of The Average Variance Extracted

	IRP	PQ	WTB
IRP	**0.870**		
PQ	0.181*	**0.809**	
WTB	0.169*	0.300*	**0.765**

Note: **p < 0.01*

When we look at the relationships between variables and the square root values of the average variance extracted in Table 2, it can be seen that the average root values of the average variance extracted for each scale of the study were greater than the correlation coefficient values of the relevant scale with other scales. Therefore, it can be concluded that the scales used in the research also provided discriminant validity.

Cronbach's alpha coefficients were calculated to determine the reliability of the scales used in this study. Nunnally (1978), states that the reliability coefficient (Cronbach's alpha) should be at least 0.7 for exploratory studies and 0.80 for non-exploratory studies. The Cronbach's alpha coefficients had good reliability levels of 0.924, 0.901, and 0.882 for IRP, PQ, and WTB.

Hypotheses Tests

To test the differences between the four groups, a 2 (price variability) X 2 (frequency of price change) ANCOVA was applied. With the idea that the price information for the product examined in the research may affect the results of the research, the internal reference prices of the product were considered as covariance variables, and differences between the study's groups, in terms of perceived quality and willingness to buy, were examined.

Some prerequisites must be met for the selection of the covariance variable in ANCOVA (Stevens, 2009). In choosing the appropriate covariance, it is expected that it is a continuous variable (measured at least in the interval scale), its reliability is sufficient (Cronbach's alpha value is at least 0.7), and it has statistically significant relationships with the dependent variables (Owen and Froman, 1998, p. 558). The reference price scale consisted of a 4-item scale measure and could be said to be continuously variable. The reliability of the reference price scale was quite high (0.924), as stated before. In Table 2, which shows the relationships between the research variables, it can be seen that the reference price had statistically significant relationships with all the research variables. Therefore, the internal reference price was found to be suitable as the covariance variable of the study.

For ANCOVA to be applied, some assumptions should be provided. These assumptions, named by Huitema (2011), are independent observations, normality, and homogeneity. Assigning each participant randomly to the study groups was considered to be more likely to be independent than the assignment of participants according to a non-random procedure. According to the normality assumption, the dependent variable should be normally distributed within each subgroup. This assumption would be valid only for cases where the sample numbers in the subgroups were more than 30, and since the sample numbers of the subgroups in this study were in the range of 90 to 98, this assumption was met. Since it was known that homogeneity would be achieved if there were an equal and sufficient number of samples ($n > 30$) for each group (Pallant, 2005), it was thought that the homogeneity assumption would also be met in this study ($n1 = 90$, $n2 = 91$, $n3 = 98$, $n4 = 97$).

Table 3. Means and Standard Deviations of
The Dependent Variables in Study Treatments

Group #	frequency of price change	price variability	n	Perceived quality		Willingness to buy	
				Mean	Std. D.	Mean	Std. D.
1	3 times	narrow (1 sigma)	90	5.26	1.10	3.41	1.62
2	3 times	wide (2 sigma)	91	4.67	1.25	3.48	1.43
3	7 times	narrow (1 sigma)	98	4.80	1.32	3.61	1.35
4	7 times	wide (2 sigma)	97	4.95	1.00	3.43	1.42

Before the ANCOVA results, the mean scores and standard deviations of the dependent variables across the frequency of the price changes and price variability are presented in Table 3. Levene's test for the equality of error variances' results for perceived quality ($F[3,372] = 1.936$; $p = 0.123$) and for willingness to buy ($F[3,372] = 1.149$; $p = 0.329$) declared that all the groups were homogenous

Table 4. ANCOVA Results of Perceived Quality and Willingness to Buy

Variables	Sources	df	Mean square	F	Sig.*
Perceived quality	Intercept	1	856.470	632.269	0.000
	Covariate (Reference price)	1	13.696	10.111	0.002
	Group (frequency X variability)	3	4.552	3.361	0.019
Willingness to buy	Intercept	1	345.799	167.495	0.000
	Covariate (Reference price)	1	23.887	11.570	0.001
	Group (frequency X variability)	3	1.201	0.582	0.627

According to ANCOVA results, as shown in Table 4, it was found that there were significant differences among the study's groups for perceived quality ($F[1.3] = 3.361$, $p < 0.05$, $n^2 = 4.552$). Thus, the first hypothesis was supported. Post hoc tests using Bonferroni's adjustment were performed to reveal which groups were significantly different from the others. The post hoc results indicated that for consumers in the low price variability and infrequent price variation condition, the perceived quality was significantly more important than it was for the consumers in the high price variability and infrequent price variation condition ($p < 0.05$). Further, there was no significant difference between the groups in terms of willingness to buy ($F[1.3] = 0.582$, $p > 0.05$, $n^2 = 1.201$). Accordingly, the second hypothesis of the research was not supported.

Discussion

The aim of this study was to examine the differences in the frequency of price changes and price variability, in terms of the perceived quality and willingness to buy. To achieve this aim, four treatment groups were established and tested. Among the treatment groups, in the low price variability and infrequent price variation condition, the perceived quality of the consumers was greater than that of the consumers in the high price variability and infrequent price variation condition.

As the evidence for the existence of upper and lower price limits is supported by the assimilation-contrast theory (Sherif and Hovland, 1961), the results of this study have provided evidence that the quality perceptions of consumers differ for price changes in different price ranges. Alford and Biswas (2002) suggested that consumers appear to be skeptical of reference prices offered externally. Also, the perceived price gap, to the degree that a retail price deviates from the internal reference price of a customer, has been seen as a major factor affecting the price judgments of consumers (Shirai and Bettman, 2005). A consumer may be suspicious of the quality of a product if its price is within a wide range. Specifically, it is known that consumers are more concerned about perceived quality in cases of price declines (Prakash, Yadav, and Kadyan, 2021).

According to the literature, price promotions have positive impacts on the volume of sales (Choi and Mattila, 2014). Contrary to the price promotion literature, there was not much difference between the groups in this study, in terms of their willingness to buy. The reason for this result can be explained by the fact that we used prices as stimuli in a direction change (not only price increases but also price decreases), so as to be similar to real price practices. The results also showed that the direction of the price changes was more effective than the frequency of the price changes and price variability in the willingness to buy of the individuals participating in different treatments.

Mazumdar and Jun (1993) argue that consumer price uncertainty is related to the direction of price changes, thus a decision to purchase a product may be affected negatively in an uncertain price frame, because buyers classify new price stimuli encountered in the marketplace as consistent or contradictory (Morris and Morris, 1990). A similar argument is stated by Meyer and Assuncao (1990), as price variation, as an uncertainty factor of future prices, would have an effect on the buying patterns of consumers. In this respect, under this uncertainty, no difference was found between the groups in the study, in terms of their purchase intentions.

Conclussion

Pricing is a much more complicated process than is generally known, as the structure of the price offered to consumers affects their buying behavior differently. Within a retail context, retailers' prices and the perceived product quality are prominent attributes of customer satisfaction (Darsono and Junaedi, 2006; Kühn and Mostert, 2015). In pricing research, the effect of price promotions on consumers' quality perceptions and purchasing has been widely studied. Within these studies, very little investigation has been done on the impact of price variations and the frequency of price changes on product quality perception or willingness to buy. Also, most studies have not examined the effect of both price variations and the frequency of price changes simultaneously. On the other hand, most of these studies deal with price changes in the direction of discounts. The present study addresses the need for research in this area by examining the effects of price variations and the frequency of price changes on a product's perceived quality or consumers' willingness to buy it.

The task of the pricing manager is to determine the upper and lower limits of what a consumer or market segment is willing to pay for a product. In this sense, this research would be helpful for pricing managers when determining threshold values by calculation of the mean and variance of the product's price. In price-related applications, retailers are recommended to be careful in how to design the price change pattern, because, in addition to price variability and the frequency of price changes, the direction of the price seems to be influential in consumers' purchasing behavior. Based on the results of this study, the implementation of less frequent price changes within a narrow price range strategy may be proposed for retailers. This strategy is also vital for managers regarding how the firm's image is created through its prices.

Limitation

This study was carried out on toilet paper and the reasons for choosing this product are explained in the study. Under the assumption that the realization of the research on a single product with a low product range and narrow price range is a fundamental constraint, it is recommended not to make a generalizable judgment about the research results. By researching different sample groups, different products, and different frequencies of price changes and variations, the effect of design differences in future studies will be examined. It is recommended that these studies are especially on real-world pricing applications that vary in either direction.

References

Alba, J. W., Mela, C. F., Shimp, T. A., and Urbany, J. E. 1999. The effect of discount frequency and depth on consumer price judgments. *Journal of Consumer Research*, 26(2): 99-114.

Alford, B. L. and Biswas, A. 2002. The effects of discount level, price consciousness and sale proneness on consumers' price perception and behavioral intention. *Journal of Business Research*, 55(9): 775-783.

Allender, W. J. and Richards, T. J. 2012. Brand loyalty and price promotion strategies: an empirical analysis. *Journal of Retailing*, 88(3): 323-342.

Bellini, S. and Aiolfi, S. 2019. Impulse buying behavior: the mobile revolution. *International Journal of Retail & Distribution Management*, 48(1): 1-17.

Blattberg, R.C., Briesch, R. and Fox, E.J. 1995. How promotions work. *Marketing Science*, 14(3): G122-G132.

Boyle, P. J., Kim, H., and Lathrop, E. S. 2018. The relationship between price and quality in durable product categories with private label brands. *Journal of Product & Brand Management*, 27(6): 647-660.

Caputo, V., Lusk, J. L., and Nayga, R. M. 2020. Am I getting a good deal? Reference-dependent decision making when the reference price is uncertain. *American Journal of Agricultural Economics*, 102(1), 132-153.

Chae, M. J. 2020. Does price promotion hurt products' perceived quality? The role of attribute alignability. *The Journal of Economics, Marketing and Management*, 8(3): 9-21.

Chandrashekaran, R. and Jagpal, H. 1995. Is there a well-defined internal reference price?. in NA - *Advances in Consumer Research*, Vol. 22, eds. Frank R. Kardes and Mita Sujan, Provo, UT, Association for Consumer Research, pp. 230-235.

Cho, S. and Workman, J. 2011. Gender, fashion innovativeness and opinion leadership, and need for touch. *Journal of Fashion Marketing and Management: An International Journal*, 15(3): 363-382.

Choi, C. and Mattila, A. S. 2014. The effects of promotion framing on consumers' price perceptions. *Journal of Service Management*, 25(1): 149-160.

Cui, A. P., Wajda, T. A., and Hu, M. Y. 2012. Consumer animosity and product choice: might price make a difference?. *Journal of Consumer Marketing*, 29(7): 494-506.

Darke, P. R. and Chung, C. M. 2005. Effects of pricing and promotion on consumer perceptions: it depends on how you frame it. *Journal of Retailing*, 81(1): 35-47.

Darsono, L. I. and Junaedi, C. M. 2006. An examination of perceived quality, satisfaction, and loyalty relationship. *Gadjah Mada International Journal of Business*, 8(3): 323-342.

Deering, B. J. and Jacoby, J. 1972. Price intervals and individual price limits as determinants of product evaluation and selection. in SV - *Proceedings of the Third Annual Conference of the Association for Consumer Research*, eds. M. Venkatesan, Chicago, IL: Association for Consumer Research: 145-166.

Della Bitta, A. J., Monroe, K. B., and McGinnis, J. M. 1981. Consumer perceptions of comparative price advertisements. *Journal of Marketing Research*, 18(4): 416-427.

Dodds, W. B. and Monroe, K. B. 1985. The effect of brand and price information on subjective product evaluations. in NA-*Advances in Consumer Research*, Vol. 12, eds. Elizabeth C. Hirschman and Moris B. Holbrook, Provo, UT: Association for Consumer Research: 85-90.

Dodds, W. B., Monroe, K. B., and Grewal, D. 1991. Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research*, 28(3): 307-319.

Fan, X., Liu, F., and Zhang, J. 2013. To be familiar or to be there? The roles of brand familiarity and social presence on web store image and online purchase intention. *International Journal of Electronic Marketing and Retailing*, 5(3): 199-221.

Fornell, C. and Larcker, D. F. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1): 39-50.

Gijsbrechts, E. 1993. Prices and pricing research in consumer marketing: Some recent developments. *International Journal of Research in Marketing*, 10(2): 115-151.

Grewal, D., Krishnan, R., Baker, J., and Borin, N. A. 1998. The effect of store name, brand name and price discounts on consumers' evaluations and purchase intentions. *Journal of Retailing*, 74(3): 331.

Gupta, S. and Cooper, L. G. 1992. The discounting of discounts and promotion thresholds. *Journal of Consumer Research*, 19(3): 401-411.

Han, S., Gupta, S., and Lehmann, D. R. 2001. Consumer price sensitivity and price thresholds. *Journal of Retailing*, 77(4): 435-456.

Harlam, B., Krishna, A., Lehmann, D., and Mela, C. 1995. Impact of bundle type, price framing, and familiarity on purchase intention for the bundle. *Journal of Business Research*, 33, 57-66.

Helsen, K. and Schmittlein, D. C. 1992. How does a product market's typical price-promotion pattern. *Journal of Retailing*, 68(3): 316-338.

Helson H. 1964. *Adaptation Level Theory*, New York, NY: Harper and Row.

Ho, T. H., Tang, C. S., and Bell, D. R. 1998. Rational shopping behavior and the option value of variable pricing. *Management Science*, 44(12-part-2): S145-S160.

Hsu, C. F., Huan, T. C., Guntoro, B., and Thongma, W. 2014. 'The effects of price promotions type and promotion depth of travel products on consumers' behavior', International Journal of Agricultural Travel and Tourism, 5(1): 77-90.

Huitema, B. 2011. The analysis of covariance and alternatives: Statistical methods for experiments, quasi-experiments, and single-case studies. (Vol. 608), John Wiley & Sons.

Jedidi, K., Mela, C. F., and Gupta, S. 1999. Managing advertising and promotion for long-run profitability. *Marketing Science*, 18(1): 1-22.

Johnson, M. D., Herrmann, A., and Bauer, H. H. 1999. The effects of price bundling on consumer evaluations of product offerings. *International Journal of Research in Marketing*, 16(2): 129-142.

Jung, I., Park, I., and Choi, J. H. 2018. Examining the performance index of retail pricing strategies under different types of competition. *International Journal of Revenue Management*, 10(3-4): 290-325.

Kalwani, M. U. and Yim, C. K. 1992. Consumer price and promotion expectations: An experimental study. *Journal of Marketing Research*, 29(1): 90-100.

Kalyanaram, G. and J. D. C. Little 1994. An empirical analysis of latitude of price acceptance in consumer package goods. *Journal of Consumer Research*, 21(3): 408-418.

Kalyanaram, G. and Winer, R. S. 2022. Behavioral response to price: Data-based insights and future research for retailing. *Journal of Retailing*, 98(1), 46-70.

Kosenko, R. and Rahtz, D. 1988. Buyer market price knowledge influence on acceptable price range and price limits. in NA - *Advances in Consumer Research*. Vol. 15, eds. Micheal J. Houston, Provo, UT: Association for Consumer Research: 328-331.

Krishna, A. 1994. The impact of dealing patterns on purchase behavior. *Marketing Science*, 13(4): 351-373.

Kumar, V. and Pereira, A. 1995. Explaining the variation in short-term sales response to retail price promotions. *Journal of the Academy of Marketing Science*, 23(3): 155-169.

Kühn, S. W. and Mostert, P. G. 2015. Customer satisfaction and relationship intention within the South African clothing retail industry. *The Retail and Marketing Review*, 11(2): 29-51.

Lalwani, A., Wang, J., and Silvera, D. 2021. Price promotion (in) frequency and consumers' brand quality evaluations. *Journal of the Association for Consumer Research*, 6(1): 91-101.

Lattin, J. M. and Bucklin, R. E. 1989. Reference effects of price and promotion on brand choice behavior. *Journal of Marketing Research*, 26(3): 299-310.

Lee, M. and Lim, H. S. 2009. The effect of price promotional information about brand on consumer's quality perception: Conditioning on pretrial brand. *Journal of Global Academy of Marketing*, 19(3): 17-27.

Lehtimäki, A. V., Monroe, K. B., and Somervuori, O. 2019. The influence of regular price level (low, medium, or high) and framing of discount (monetary or percentage) on perceived attractiveness of discount amount. *Journal of Revenue and Pricing Management*, 18(1): 76-85.

Lichtenstein, D. R., Bloch, P. H., and Black, W. C. 1988. Correlates of price acceptability. *Journal of Consumer Research*, 15(2): 243-252.

Mayasari, I., Haryanto, H. C., Wiadi, I., Wijanarko, A. A., and Abdillah, W. 2022. Counterfeit purchase intention of fashion brands: The personal values and social aspect of consumers as determinants. *Gadjah Mada International Journal of Business*, 24(1): 1-24.

Mazumdar, T., and Jun, S. Y. 1992. Effects of price uncertainty on consumer purchase budget and price thresholds. *Marketing Letters*, 3(4): 323-329.

Mazumdar, T. and Jun, S. Y. 1993. Consumer evaluations of multiple versus single price change. *Journal of Consumer Research*, 20(3): 441-450.

Mehta, N., Rajiv, S., and Srinivasan, K. 2003. Price uncertainty and consumer search: A structural model of consideration set formation. *Marketing Science*, 22(1): 58-84.

Mela, C. and Urbany, J. 1997. Promotion over time: exploring expectations and explanations. NA-*Advances in Consumer Research*, Vol. 24, eds. Merrie Brucks and Deborah J. MacInnis, Provo, UT: Association for Consumer Research: 529-535.

Meyer, R. J. and Assuncao, J. 1990. The optimality of consumer stockpiling strategies. *Marketing Science*, 9(1): 18-41.

Monroe, K. B. and Dodds, W. B. 1988. A research program for establishing the validity of the price-quality relationship. *Journal of the Academy of Marketing Science*, 16(1): 151-168.

Monroe, K. B. and Krishnan, R. 1985. The effect of price on subjective product evaluations. *Perceived Quality*, 1(1): 209-232.

Morris, M. H. and Morris, G. 1990. *Market-Oriented Pricing: Strategies for Management.* Lincolnwool, Ill: Greenwood Press.

Mulhern, F. J. and Padgett, D. T. 1995. The relationship between retail price promotions and regular price purchases. *Journal of Marketing*, 59(4): 83-90.

Murthi, B. P. S., Haruvy, E., and Zhang, H. 2007. The effect of variability in price on consumer brand choice. *Review of Marketing Science*, 5(1): 1-26.

Narasimhan, C., Neslin, S. A., and Sen, S. K. 1996. Promotional elasticities and category characteristics. *Journal of Marketing*, 60(2): 17-30.

Nirmala, R. P. and Dewi, I. J. 2011. The effects of shopping orientations, consumer innovativeness, purchase experience, and gender on intention to shop for fashion products online. *Gadjah Mada International Journal of Business*, 13(1): 65-83.

Nunnally, J.C. 1978. *Psychometric Theory*, 2nd edition, McGraw-Hill, New York.

Owen, S. V. and Froman, R. D. 1998. Uses and abuses of the analysis of covariance. *Research in Nursing & Health*, 21(6): 557-562.

Pallant, J. 2005. *SPSS Survival Manual: A Step By Step Guide To Data Analysis Using SPSS For Windows Version 12*, 2nd Edition. Maidenhead: Open University Press.

Park, H., Lalwani, A. K., and Silvera, D. H. 2020. The impact of resource scarcity on price-quality judgments. *Journal of Consumer Research*, 46(6): 1110-1124.

Peterson, R. A. and Wilson, W. R. 1985. Perceived risk and price reliance schema as price-perceived quality mediators. in *Perceived quality: how consumers view stores and merchandise*, Jacob Jacoby and Jerry C. Olson, eds. Lexington, MA: Lexington Books: 247-268.

Prakash, C., Yadav, R., and Kadyan, S. 2021. Effect of the price drop on customer's perceived evaluation across selected product categories. *Journal of Revenue and Pricing Management*, 20(2): 204-210.

Prakash, D. and Spann, M. 2022. Dynamic pricing and reference price effects. *Journal of Business Research*, 152, 300-314.

Putler, D. S. 1992. Incorporating reference price effects into a theory of consumer choice. *Marketing Science*, 11(3): 287-309.

Raghubir, P. and Corfman, K. P. 1995. When do price promotions signal quality? The effect of dealing on perceived service quality. in NA-*Advances in Consumer Research*, Vol. 22, eds. Frank R. Kardes and Mita Sujan, Provo, UT: Association for Consumer Research: 58-61.

Rao, A. R. and Monroe, K. B. 1989. The effect of price, brand name, and store name on buyers' perceptions of product quality: An integrative review. *Journal of Marketing Research*, 26(3): 351-357.

Rao, A. R. and Sieben, W. A. 1992. The effect of prior knowledge on price acceptability and the type of information examined. *Journal of Consumer Research*, 19(2): 256-270.

Rao, V. R. 1984. Pricing research in marketing: The state of the art. *Journal of Business*, 57(1): S39-S60.

Schermelleh-Engel, K., Moosbrugger, H., and Müller, H. 2003. Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, 8(2): 23-74.

Scitovsky, T. 1944-45. Some consequences of the habit of judging quality by price. *The Review of Economic Studies*, 12(2): 100-105.

Shaddy, F., and Lee, L. 2020. Price promotions cause impatience. *Journal of Marketing Research*, 57(1): 118-133.

Sherif M, and Hovland CI. 1961. *Social judgement: assimilation and contrast effects in com-*

munication and attitude change. New Haven, CT: Yale University Press.

Shirai, M., and Bettman, J. R. 2005. Consumer expectations concerning timing and depth of the next deal. *Psychology & Marketing*, 22(6): 457-472.

Sinha, I., and Smith, M. F. 2000. Consumers' perceptions of promotional framing of price. *Psychology & Marketing*, 17(3): 257-275.

Sorce, P. and Widrick, S. M. 1991. Individual differences in latitude of acceptable prices. NA-*Advances in Consumer Research*. Vol. 18, eds. Rebecca H. Holman and Michael R. Solomon, Provo, UT: Association for Consumer Research: 802-805.

Stafford, J. E. and Enis, B. M. 1969. The price-quality relationship: An extension. *Journal of Marketing Research*, 6(4): 456-458.

Stevens, J. P. 2009. *Applied Multivariate Statistics for The Social Sciences.* Routledge.

Vanhuele, M. and Drèze, X. 2002. Measuring the price knowledge shoppers bring to the store. *Journal of Marketing*, 66(4): 72-85.

Völckner, F. and Hofmann, J. 2007. The price-perceived quality relationship: a meta-analytic review and assessment of its determinants. *Marketing Letters*, 18(3): 181-196.

Völckner, F. 2008. The dual role of price: decomposing consumers' reactions to price. *Journal of the Academy of Marketing Science*, 36(3): 359-377.

Walters, R. G. and MacKenzie, S. B. 1988. A structural equations analysis of the impact of price promotions on store performance. *Journal of Marketing Research*, 25(1): 51-63.

Winer, R. S. 1989. A multi-stage model of choice incorporating reference prices. *Marketing Letters*, 1(1): 27-36.

Yang, Z., Sun, S., Lalwani, A. K., and Janakiraman, N. 2019. How does consumers' local or global identity influence price-perceived quality associations? The role of perceived quality variance. *Journal of Marketing*, 83(3): 145-162.

Zeithaml, V. A. 1988. Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of Marketing*, 52(3): 2-22.

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SMEs Fintech Financing: Does Board Governance Matter?

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Abstract: The purpose of this study is to examine the board governance factors that influence a small and medium enterprise's (SME's) decision toward fintech financing. A structured questionnaire survey of 90 Malaysian SMEs was used and the data analyzed using the Heckman selection model and the marginal effect model. The results demonstrate that SMEs' female board members, family board members, and the duality of their CEOs have a significant influence on their decision to obtain financing from fintech platforms. Professional services provided by experts have a negative influence on their decisions to engage in fintech financing. The SMEs' board size, the length of their chairmen's service, and non-family board members are negatively related to their decisions to apply for financing. The more male members that were on the board, the more likely the SME was to choose to apply for external financing during the survey year.

Keywords: fintech financing, apply finance, CEO duality, board structure
JEL Classification: G32, G39

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Introduction

SMEs play a significant role in the Malaysian economy, contributing 36% to national GDP in 2016 and employing more than four million people. The SMEs' contribution to GDP was expected to grow to 41% by 2020. However, the main challenge to the SMEs' ability to grow and increase their productivity is poor access to capital and financing. Most of their capital and financing are obtained from banking institutions, followed by the Development Financial Institution, Bank Negara, Malaysia's Funds and Government Funds. Compared to publicly listed companies, SMEs are much smaller; they have insufficient collateral and the lack of information disclosures by them increases the chances of their financial applications being turned down.

Despite the importance of SMEs to the nation's economic development, they still face financial constraints. Many small firms report access to finance, or the cost of finance, as major obstacles to their growth (Bloom, Mahajan, McKenzie & Roberts, 2010). Unlike large and publicly traded firms, SMEs have limited or no access to certain types of external financing, such as long-term debt or issuing equity (Uyar & Guzelyurt, 2015). It is generally acknowledged that their inability to access bank loans could be due to high collateral requirements, high interest rates, and the lack of a relationship with bankers (Uddin, 2014). There is no doubt that SMEs face an increasingly large number of constraints and have less access to formal sources of external finance, thus accounting for their limited growth potential (Saidia, Ayodele, & Maxwell, 2021; Wahab & Abdesamed, 2012).

The rapid growth of financial technology (fintech) is aimed at tackling this problem and is important in boosting SMEs. This financing platform includes the equity crowdfunding (ECF) framework, Investment Account Platform (IAP), and peer-to-peer (P2P) lending. Fintech financing can reach under-served SMEs, mainly because the company does not have to meet the requirements of a bank's credit assessment. Indeed, advances in fintech lending have started to change the way consumers and small businesses are financed (Jagtiani & Lemieux, 2018). Recent facilities help reduce the cost and time taken to access funding, complementing conventional banking facilities in supporting financing for SMEs' growth at different stages. Demand for fintech financing is expected to increase in the future (Ivashchenko, Britechenko, Dyba, Polishchuk, Sybirianska & Vasylyshen, 2018) and fintech financing platforms are becoming economically relevant for financing SMEs (Cornelli, Davidson & Frost, 2019). However, even with this alternative form of financing, corporate governance through the board of directors has a significant influence on SMEs' financing decisions. This research examines the use of fintech financing by SMEs with financial constraints, and the influence of corporate governance on these financing methods. It is based on field surveys of Malaysian SMEs, employing a self-administered questionnaire. The study is expected to identify the SMEs' preference for seeking fintech financing, and the influence of corporate governance factors such as the board's size, the frequency of board meetings, and the financial literacy of the board. The findings will provide evidence for policy makers to further design and strengthen corporate governance, to enhance the SMEs' growth.

Widespread research has investigated capital structures and corporate governance. However, less attention has been given to them in the context of SMEs, as most of the prior research has focused on corporate governance and SMEs' performance. In recent years, there have been numerous studies which looked at the obstacles SMEs face in accessing financing (Akther, 2022; Khan, Siddique, Sarwar, Minh Huong, & Nadeem, 2020; Lussuamo & Serrasqueiro, 2020), but they have mainly focused on bank loans. There has been limited research into financing though online platforms. To the best of the researcher's knowledge, few studies have examined corporate governance and financing among SMEs, in terms of fintech, as most have tended to focus only on its adoption (Hu, Ding, Li, Chen, & Yang, 2019). Hence, this study is motivated by the need to bring new evidence to the field, with an in-depth investigation of the effect of board governance and the use of fintech financing among Malaysian SMEs. This issue is critical, given the important role of SMEs in contributing to the Malaysian economy.

Lately, regulators and policymakers around the world have expanded their concerns to address the issues of gender equality in the boardroom. Hence, a growing literature is starting to explore the economic benefit of board gender diversity on firm performance (Ahern & Dittmar, 2012; Solakoglu & Demir, 2016; Green & Homroy, 2018), corporate decisions (Miller & Triana, 2009; Rossi, Cebula, & Barth, 2018), and risk-taking behavior (Adams and Funk 2012). However, the relationship between women's representation and the use of debt financing in SMEs, especially with fintech financing, has scarcely been studied.

Literature Review

The issue of corporate governance has been a growing area of management research, especially among large and listed firms. The success or failure of a company, regardless of whether it is a listed company or a SME, is determined by its corporate governance practices. However, the influence of corporate governance variables on the capital structure is less evident in the case of SMEs (Dasilas & Papasyriopoulos, 2015). The board of directors plays a significant role in the SMEs' access to capital through attracting investors (Hamad & Karoui. 2011), innovative ideas in the competitive environment (Chou & Wang, 2009) and the company's strategic management plan (Brunninge, Nordqvist & Wiklund, 2007). Corporate governance heavily influences a company's capital structure (Antoniou, Guney,

& Paudyal, 2008). One of the main activities of boards is facilitating access to resources, particularly capital (Gkliatis, 2009), to reduce the cash flow problem, maintain resource allocations through the most profitable investment, and manage shocks (Bigsten, Collier, Dercon, Fafchamps, Gauthier, Gunning, Oduro, Oostendorp, Patillo, Söderbom, & Teal, 2003).

Due to the firm's closely held nature, the responsibility of the board in SMEs is different compared to listed firms. The risk management's opportunistic behavior is lower in SMEs, since management and ownership overlap (Johannisson & Huse, 2000). Thus, a well-functioning board of directors may create added value to an SME with better control over the management. However, large boards can bring negative value to SMEs with worse coordination, flexibility, and communication (Arosa, Iturralde, & Maseda, 2013). A company with a large board is more prone to seek external financing for expansion and aggressive exploitation of investment opportunities (Ganiyu & Abiodun, 2012). Consistent with this are the findings of Heng, Azrbaijani, and San (2012), that board size is inversely proportional to the leverage ratio. However, Nazir and Javaid (2018) believe that board size is not a significant influence on a company's financial decisions. If a board is controlled by the CEO, this indicates a lack of separation between decision and control in the company's management (Fama & Jensen, 1983). Therefore, we hypothesize that:

H1: Board size positively influences fintech financing.

The number of board meetings influences the growth of a small business (Gill, Biger, Mand, & Shah, 2012). The board's effectiveness can be seen in the frequency it holds meetings to carry out the tasks of monitoring and advising that lead to better company performance (Gabrielsson & Winlund, 2000; Arosa, Iturralde, & Maseda, 2012). However, frequent meetings may increase the financial burden of the SME. The financial benefits could be reduced by the expenditure associated with such meetings, for instance, the rental of venues, payment of allowances, and transport costs (Abor & Biekpe, 2007). The frequency of meetings may have a negative impact on the financing decisions (Anandasayanan & Velnampy, 2018). Thus, we hypothesize that:

H2: Board meetings negatively influence fintech financing.

Regardless of size, financial knowledge about the capital structure is one of the important factors that contribute to the growth and development of SMEs, enabling them to stay competitive in the market (Delic, Peterka, & Kurtovic, 2016). Zulridah and Iskandar (2012) state that a financially literate board of directors can sustain the company and safeguard its business from financial distress. Board members with financial literacy can effectively guide the management on issues related to financial matters (Gabrielson & Winlund, 2000; Lybaert, 1998). Therefore, we hypothesize that:

H3: Board knowledge negatively influences fintech financing.

A CEO's duality causes higher debt policies to be pursued, since a CEO, when also acting as chairman, concentrates on decision making (Na, Lee, & Yu, 2023; Abor, 2007). Gill, Biger, Mand, and Shah (2012) conclude that Indian SMEs incur high levels of debt due to their CEOs' duality and large board size. They argue that the duality of the CEO and the board's size should be used with caution, since a small firm can face an increased risk of bankruptcy through higher debt. Therefore, we hypothesize that:

H4: The CEO's duality positively influences fintech financing.

The directors' tenure on a board indicates their commitment to better service (Kaczmarek, Kimino, & Pye, 2012). Longer tenure enables long-term investment protected by incentives and stewardship (Le Breton-Miller & Miller, 2006). Nevertheless, according to Musteen, Barker and Baeten (2006), the longer directors hold their positions, the more they insist on change. Hence, we hypothesize that:

H5: Board tenure negatively influences fintech financing.

According to Hart (1995), most SMEs are controlled by families, and family members sit on the board of directors and decide on company operations, including financial matters. Family involvement is mainly engaged in managing the company and taking on less debt, compared to their non-family counterparts (Ampenberger, Schmid, Achleitner, & Kaserer, 2013). Contrary to the findings of Gottardo and Moisello (2014) and Ramalho, Rita, and da Silva (2018), family firms are more leveraged than non-family companies. The main corporate governance factors that affect SMEs' debt ratio are the proportion of family shareholding and family directors (Kuo, Wang & Liu, 2012). Family directors can reduce the frequency of using short-term debt to satisfy long-term financial needs. When they need to make financial decisions, their main concern is how it would affect the family's control, rather than an assessment of the complex financial issues (Croci, Doukas, & Gonenc, 2011). Hence, we hypothesize that:

H6: Family management negatively influences fintech financing.

When making debt-financing decisions, family firms focus on family-centered goals concerning the risk of losing control due to credit monitoring (Schmid, 2013). To safeguard the family's involvement and control, they try to avoid debt financing. However, with limited internal funds available, they may have to consider external sources of financing. When family members are also on the board of directors, family-centered goals can still be achieved and these can influence the debt-financing decision making (Jaskiewicz & Klein 2007). Hence, we hypothesize that:

H7: Family board members negatively influence fintech financing.

Nevertheless, when the board of directors includes non-family or outside members, the noneconomic interest of the family shareholders may align with the economic interest of non-family shareholders to grow the business (Blumentritt, 2006). Based on the aforementioned literature, we believe SMEs with family-centered goals are more likely to have family representation on the board as a strategy to influence the firm's decision making, especially regarding the aspects of debt financing. Hence, we hypothesize that:

H8: Non-family board members positively influence fintech financing.

The presence of women directors on boards is important for the company's survival (Djan, Zehou, Bawuah, 2017 ; Pasaribu, 2017) since they have an effect in lessening the debt level and reducing earnings volatility (Faccio, Marchica, & Mura, 2016). They prefer short-term debt, unlike their male counterparts (Datta, Doan, & Toscano, 2021). However, women's attitudes toward risk depend on the environment of the company; they can embrace more risk than their male counterparts in certain situations (Adam & Funk, 2012). Thus, we hypothesize that:

H9: Female board members negatively influence fintech financing.

By nature, men are willing to take greater risks, while women directors are risk-averse and reluctant to engage in debt financing that would affect the company's performance (Ball, Eckel, & Heracleous., 2010). Diversity on the board enhances a company's competence and reduces any tendency to information asymmetry between managers and owners, and hence toward long-term debt financing (Alves, Couto, & Francisco, 2015). Therefore, based on the above discussion, we hypothesize that:

H10: Male board members positively influence fintech financing.

Methodology

The data were collected using a structured questionnaire survey, given the unavailability of public access to the SMEs' audited financial statements, to obtain corporate governance information. The questionnaire consisted of three sections. Section 1 captured the demographics of the respondents and the companies' profiles. In section 2, respondents were asked for information about the companies' corporate governance. The third section covered questions regarding the companies' financial characteristics.

The study focused on Malaysian SMEs, and 1,000 questionnaires were randomly distributed; however, only 110 were returned and the final usable sample was only 90. As the questionnaire was distributed in 2020, the low response rate was definitely due to the outbreak of coronavirus (COVID 19), which led to Malaysia implementing a Movement Control Order (MCO) beginning on March 18. To curb the spread of COVID-19, only essential services remained open, including supermarkets, hospitals, and pharmacies. Other businesses remained strictly closed. As of August 30, 2020, the last date for data collection, Malaysia was still under a Recovery Movement Control Order (RMCO), which lasted until the end of the year.

Table 1 summarizes the variable definitions and descriptive statistics. The Heckman selection model was employed to examine the relationship between the SMEs' corporate governance and fintech financing. This model was based on the simultaneous estimation of an outcome equation and selection equation, which allowed for any correlations between the unobserved error terms for the dependent variables and participation in the survey (Bärnighausen, Wandira-Kazibwe & Canning, 2011). The model designed by Heckman (1976) allowed for estimating the SMEs' fintech financing, from data obtained from the responses to the survey question "To what extent the firm seeks fintech financing (1: extremely least use; 7: extremely most use)." The Heckman model assumed an existing underlying regression relationship.

$$y_j = x_j\beta + u_{1j} \qquad (1)$$

However, the dependent variable (y_j) was only observed if

$$z_j\gamma + u_{2j} > 0 \qquad (2)$$

Where y_j was the SME's fintech financing during the survey year, and x_j and z_j vectors of observable characteristics relative to this fintech financing, which might or might not be common in the specifications of both equations (1) and (2). β and γ were vectors of the parameters to be estimated, and u_{1j} and u_{2j} were normally distributed error terms with a mean of zero and a standard deviation σ to be estimated. The error terms were distributed as follows:

$u1 \sim N(0,\sigma)$
$u2 \sim N(0,1)$
$corr\ (u_1,u_2) = \rho \qquad (3)$

When $\rho \neq 0$, a standard regression model technique, was applied to Equation (1), it provided biased results. The Heckman model provided consistent and asymptotically efficient estimates for all the model's parameters. When $\rho = 0$, the standard regression model, was applied to Equation (1), it provided consistent and asymptotically efficient estimators for all the model's parameters (Sarvašová, Quiroga, cSuárez, Ali, T, Lukmine, Đorđević, & Hrib, 2018). Like an instrumental variable method, the Heckman selection model was one way to address an omitted variable bias that occurred due to sample selection issues (Clougherty, Duso, & Muck, 2016; Certo, Busenbark, Woo, & Semadeni, 2016).

Thus, the model was developed as follows:

$$Fintech\_fin = \alpha + \beta_1 \text{*Apply\_fin} + \beta_2 \text{*Board\_Size} + \beta_3 \text{*Board\_Meeting} + \beta_4 \text{*Board\_quality} + \beta_5 \text{*CEO\_Duality} + \beta_6 \text{*Chairman\_ser} + \beta_7 \text{*Family\_manag} + \beta_8 \text{*Board\_Family} + \beta_9 \text{*Board\_NoFamily} + \beta_{10} \text{*Board\_Male} + \beta_{11} \text{*Board\_Female} + \beta_{12} \text{*Difficulty\_fin} + \beta_{13} \text{*Professional\_Serv} + \beta_{14} \text{*Firm\_Age} + \beta_{15} \text{*Tot\_Assets} + \beta_{16} \text{*Sales\_Grw} + \beta_{17} \text{*R\&D\_Tsales} + u_{it} \qquad (4)$$

Fintech financing was observed if:

$$\gamma_1 \text{*Apply\_fin} + \gamma_2 \text{*Board\_Size} + \gamma_3 \text{*Board\_Meeting} + \gamma_4 \text{*Board\_quality} + \gamma_5 \text{*CEO\_Duality} + \gamma_6 \text{*Chairman\_ser} + \gamma_7 \text{*Family\_manag} + \gamma_8 \text{*Board\_Family} + \gamma_9 \text{*Board\_NoFamily} + \gamma_{10} \text{*Board\_Male} + \gamma_{11} \text{*Board\_Female} + \gamma_{12} \text{*Difficulty\_fin} + \gamma_{13} \text{*Professional\_Serv} + \gamma_{14} \text{*Firm\_Age} + \gamma_{15} \text{*Tot\_Assets} + \gamma_{16} \text{*Sales\_Grw} + \gamma_{17} \text{*R\&D\_Tsales} + u_{it} > 0 \qquad (5)$$

Even though it has been widely used, the interpretation of the coefficient estimates using the Heckman model can be complicated since common variables are used in both the selection and outcome equations (Vance, 2009). To check the robustness of the result, this study therefore employed the marginal effect model suggested by Vance (2009) to correct the selectivity bias, since it was calculated using a nonlinear function of the underlying model's parameters. The results are reported in Table 3 (Heckman model) and Table

4 (marginal effect model). Model 1 was mainly used to test the board structure, model 2 examined the family board members and board gender diversity and model 3 was for governance variables.

Empirical Results

The descriptive statistics summarized in Table 1 show that, on average, most SMEs in the sample had two members on the board of directors, with at least one being a family member. On average, the SMEs held five board meetings a year. The age of most of the businesses was around 12 years, with the chairman's tenure about 9.4 years.

Table 1. Variable Definition and Descriptive Statistics

Variable	Measurement of Variable	Mean	Std. Dev.
Panel A : Dependent Variable			
Fintech_fin	Ordinal dummy variables for the extent to which the firm seeks fintech finance (1: extremely least use; 7: extremely most use)	3.189	1.907
Apply_Fin	Dummy variable equal to 1 if firm applied for finance in the survey year, and 0 otherwise	0.544	0.501
Panel B : Independent Variable			
Board_size	Number of board members	2.444	1.608
Board_Meeting	Number of board meetings last year	4.756	12.909
Board_qualify	Dummy variable equals 1 if a board member has a qualification in finance or accounting, and 0 otherwise	0.433	0.498
CEO_Duality	Dummy variable equal to 1 if CEO is also the board chairman, and 0 otherwise	0.767	0.425
Chairman_ser	Length of present chairman's service	9.408	7.513
Family_manage	Ordinal dummy variables for the number of family members involved in management: 0 (1), 1-2 (2), 3-4 (3), 5-6 (4), and >6 (5).	1.944	0.987
Board_Family	Number of family board members	1.411	1.728
Board_NoFamily	Number of non-family board members	0.800	3.526
Board_Male	Number of male board members	2.022	1.628
Board_female	Number of female board members	0.856	0.855
Difficulty_fin	7-point Likert scale from extremely easy to extremely hard	5.167	1.478
Professional_Serv	Dummy variable with value 1 if law/accounting/consulting firm provides professional service, 0 otherwise	0.700	0.461
Panel C: Control Variable			
Firm_Age	Year business founded	12.322	8.314

Total_Assets	Ordinal dummy variables for total assets: <RM50,000 (1), RM50,000 to less than RM100,000 (2), RM100,000 to less than RM500,000 (3), RM500,000 to less than RM1million (4), and > RM 1 million (5).	3.100	1.536
Sales_Grw	Ordinal dummy variables for sales growth rate: <10% (1), 10%–20% (2), 20–30% (3), 30–40% (4), and >40% (5).	1.600	0.731
R&D_TSales	Ordinal dummy variables for the ratio of R&D expenditure to total sales: <1% (1), 1%–3% (2), 3–5% (3), 5–10% (4), and >10% (5).	1.944	1.301

The result of the tolerance statistic (TOL) and variance inflation factor (VIF) (Table 2) show that no multicollinearity existed for the independent variables. The lowest TOL value was 0.140 (board size) and the highest was 0.815 for professional service. The VIF results ranged between 1.218 and 7.167, all less than 10. Hence, no multicollinearity was detected in the models.

Table 2. Multicollinearity

Variable	**VIF**	**Tolerance**
Board_size	7.167	0.140
Board_Meeting	1.396	0.716
Board_qualify	1.458	0.686
CEO_Duality	1.447	0.691
Chairman_ser	2.546	0.393
Family_manage	2.529	0.395
Board_Family	4.075	0.245
Board_NoFamily	1.218	0.821
Board_Male	5.774	0.173
Board_female	1.862	0.537
Difficulty_fin	1.389	0.720
Professional_Serv	1.227	0.815
Firm_Age	2.262	0.442
Total_Assets	1.528	0.654
Sales_Grw	1.474	0.678
R&D_TSales	1.957	0.511

Table 3 reports the regression results from the Heckman selection model for applying for finance and fintech financing on board structure, family board members, board gender diversity and firm characteristics. Table 4 reports the robustness results for the marginal effect model. The result apparently showed that the sign, magnitude, and the level of significance of the coefficient was very similar to the coefficient obtained from the

Heckman selection model. However, the result for family board members was positive, and influenced applying for financing at a 10% significance level, unlike the Heckman selection model, but the magnitude of the coefficient was similar for both regressions.

Applying for Finance

In terms of board size (tables 3 and 4), SMEs with more members prefer more debt financing. The result in model 3 showed that board size was positively and significantly associated with companies applying for financing during the survey year, at a 10% significance level. Companies with large boards enjoy a lower cost of debt, apparently because creditors view them as an effective monitoring device in financial accounting processes (Anderson, Mansi, & Reeb, 2003). In addition, having more directors creates difficulties when decision making, and reduces the quality of corporate governance, consequently increasing the external debt financing (Abor, 2007).

The results also suggested that CEOs with dual positions were insignificant in influencing SMEs to employ debt financing. However, the chairman's length of service had a positive and significant effect on a company's decision to apply for debt financing. The longer the chairman had served, the more likely the company was to access financing. The greater the tendency of a chairman to remain entrenched in his position, the more debt financing was used to reduce information asymmetry. The frequency of board meetings showed no relationship with an SME's decision to apply for external financing, although the associated costs reduced the benefits of obtaining the financing (Abor & Biekpe, 2007).

Family members on boards had little influence on the decision to apply for financing. Nevertheless, the results suggested that the presence of non-family members was positively related to applying for financing, at a 5% significance level. Family directors were foreseen as wanting to dominate and control the risk motivations and increased the fear of bankruptcy due to an insufficient repayment capability (Mishra & McConaughy, 1999), and through being risk averse (Strebulaev & Yang, 2013). They created more cautious attitudes to adopting debt financing. Boards comprising non-family members chose to apply for financing to mitigate agency problems and reduce information asymmetry; they have helped SMEs to achieve strategic changes (Bankewitz, 2016), and added value through their advice regarding future growth (Van den Heuvel, Van Gils, & Voordeckers, 2006).

As for board diversity, the outcome demonstrated that male board members strongly influenced the decision to apply for financing, while female members were insignificantly related to this. Women experienced greater difficulties in looking for external financing since they had less access to sources of information and debt capital than men did (Constantinidis, Cornet, & Asandei, 2006).

The results also reported that the longer the SME had been operating in the market, the more likely it was to apply for finance. This was consistent with the results of Yazdanfar and Ohman (2014), who found that newer SMEs would be in a phase of less diversified and volatile profits. For older SMEs, the level of information asymmetry tended to be lower, so they found it easier to obtain funding through external financing (Mac and Bhaird & Lucey, 2010). Sales growth strongly influenced company decisions to apply for financing, at a 1% significance level. This suggests that high-growth SMEs require more external funding, as capital would be needed to support their future growth prospects. Degryse, Matthews and Zhao (2017) similarly conclude that SMEs favor long-term leverage with increased growth opportunities.

Fintech Financing

Based on the Heckman selection model and the marginal effect model in tables 3 and 4 respectively, the result indicated that the duality of the CEOs positively influenced the SMEs to obtain financing through fintech platforms, at a 1% significance level, hence Hypothesis H4 was accepted. There were insignificant relationships between board size, board meetings, board knowledge and board tenure and fintech financing, therefore hypotheses H1, H2, H3 and H5 were rejected. Given the economic conditions at the time the survey was conducted, we further examined the companies' strategic decisions, and the CEOs' duality indicated an increased debt portion, especially through fintech financing. With environmental dynamism, an increase in uncertainty would challenge the CEO's decision making and strategic implementation (Halevi, Carmeli, & Brueller., 2015). A CEO is required to utilize all the resources and capabilities to continue sustained company performance (Waldman, Ramirez, House & Puranam, 2001) and innovation (Prasad & Junni, 2016); consequently, SMEs with CEO duality perform better than those without duality (Gabrielsson, 2007). Thus, CEOs' duality takes advantage of the fintech platform to obtain a source of capital to continue business operations and reduce the possibility of information asymmetry inside the company.

When SMEs appoint board members with knowledge of finance and accounting, they are insignificantly associated with the decision to apply for external financing, mainly through fintech platforms. This result contradicts Zulridah and Iskandar (2012), who concluded that board members' financial and accounting knowledge helps SMEs to sustain their businesses, with guidance on matters related to financing (Gabrielson & Winlund 2000; Lybaert 1998). However, our results reveal that once SMEs have received advice from professional people, such as lawyers, accountants or financial consultants, regarding their business activities and operations, this adversely affects debt financing using the alternative medium of financing. Models 1 and 2 show that professional advice had a negative relationship with fintech financing, at 10% and 5% significance levels, respectively.

In models 5 and 6, when the board of directors consists of family members, SMEs employ significantly less debt financing through fintech platforms, at 10% and 5%, respectively. Therefore, Hypothesis H7 was accepted, where family board members negatively influence fintech financing. There was a strong feeling of trust in the banks by family companies, consequently improving access to bank financing, mainly for long-term debt and meeting their target leverage (Croci, Doukas, & Gonenc, 2011; Pindado, Requejo, & la Torre, 2015). Therefore, family members on the board prefer conventional financial institutions for external sources of capital, instead of the new medium. The result also revealed that family members in management positions, and non-family members on the board, were insignificant in influencing SMEs decisions regarding some aspects of financing through online platforms. Thus, hypotheses H6 and H8 were rejected.

In terms of board diversity, females had a significantly negative attitude to fintech financing in models 5 and 6, therefore hypothesis H9 was accepted. However, hypothesis H10 was rejected, as the result showed that male board members had an insignificant preference for obtaining capital financing through fintech platforms. Female directors attended more board meetings and obtained information to monitor the executive directors (Adams & Ferreira, 2009); hence, board diversity helped to improve monitoring efficiency (Carter, D'Souza, Simkins, & Simpson, 2010). Managerial opportunistic behavior and information asymmetry were reduced with female directors on the board, which subsequently affected creditors' perceptions of the likelihood of loan default and the cost of debt (Usman, Farooq, Zhang, Makki & Khan, 2019).

SMEs' research and development (R&D) was positively and significantly related to fintech financing, at a 5% significance level. When a SME needed capital to finance its R&D, it chose to obtain it through a fintech platform. Consistent with the findings of Chebukhanova and Blokhina (2020), there were positive relationships between R&D and alternative online funding platforms. Fintech channels provided manageable conditions for SMEs to obtain financing and reduce the financial constraints (Degryse, Matthews & Zhao, 2017). Easy access to finance has helped SMEs overcome market competition through new product developments and long-term survival (Altomonte, Gamba, Mancusi, & Vezzulli, 2016).

Total assets represented the size of the company and showed a negative relationship with fintech financing, at a 1% significance level. This indicated that large companies prefer to employ adverse debt through innovative financing. Large SMEs, having diversified business operations with stable profits, prefer to access financing through formal channels, such as financial institutions, venture capitalists, and the government (Arif, Hasan, Joyo, Gan, & Sazali Abidin, 2020).

Table 3. Heckman Selection Model

	Applying for Finance			Fintech Financing		
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Board_size	-0.195*		0.370*	0.047		0.178
	-0.102		-0.204	-0.176		-0.4
Board_Meeting	-0.01		-0.011	-0.006		-0.003
	-0.018		-0.01	-0.035		-0.038
Board_qualify	0.224		0.314	-0.259		-0.372
	-0.244		-0.252	-0.44		-0.47
CEO_Duality	-0.013		0.019	1.285***		1.332**
	-0.35		-0.296	-0.41		-0.582
Chairman_ser	0.056**		0.042	-0.024		-0.027
	-0.024		-0.026	-0.035		-0.036
Family_manage	0.008		-0.424	0.051		0.409*
	-0.192		-0.36	-0.207		-0.21
Board_Family		0.107	0.332		-0.059*	-0.039**
		-0.105	-0.195		-0.121	-0.235
Board_NoFamily		0.226*	0.123		-0.034	-0.056
		-0.112	-0.23		-0.019	-0.021
Board_Male		-0.396***	-0.722***		-0.028	0.199
		-0.11	-0.258		-0.184	-0.507
Board_Female		0.116	0.058		-0.521**	-0.578*
		-0.232	-0.294		-0.228	-0.327
Difficulty_fin				0.136	0.104	0.164
				-0.139	-0.128	-0.132
Professional_Serv	0.262	0.342	0.388	-1.238*	-1.373**	-0.952
	-0.42	-0.532	-0.534	-0.602	-0.524	-0.7
Firm_Age	0.076*	0.102***	0.083**	0.039	0.021	0.013
	-0.038	-0.036	-0.037	-0.031	-0.031	-0.026
Tot_Assets	-0.01	-0.002	0.012	-0.555***	-0.539***	-0.579***
	-0.206	-0.161	-0.185	-0.133	-0.134	-0.152
Sales_Grw	0.764***	0.674***	0.932***	-0.255	-0.014	-0.47
	-0.249	-0.247	-0.329	-0.189	-0.248	-0.32
R&D_TSales	-0.275*	-0.243*	-0.445**	0.453*	0.367**	0.492**
	-0.145	-0.134	-0.193	-0.234	-0.175	-0.226
Obs	90	90	90	90	90	90
rho				0.023	0.085	-0.087
sigma				1.287	1.3	1.217

lambda				0.03	0.111	-0.106

Note: **, **, *** shows statistical significance at the level of 10%, 5% and 1%, respectively.*

Table 4. Marginal Effect Model

	Applying for Finance			Fintech Financing		
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Board_size	-0.195**		0.370*	0.05		0.199
	-0.102		-0.204	-0.184		-0.446
Board_Meeting	-0.01		-0.011	-0.006		-0.003
	-0.018		-0.01	-0.036		-0.04
Board_qualify	0.224		0.314	-0.263		-0.354
	-0.244		-0.252	-0.428		-0.443
CEO_Duality	-0.013		0.019	1.285***		1.334***
	-0.35		-0.296	-0.407		-0.575
Chairman_ser	0.056**		0.042*	-0.025		-0.025
	-0.024		-0.026	-0.042		-0.04
Family_manage	0.008		-0.424	0.051		0.385
	-0.192		-0.36	-0.207		-0.275
Board_Family		0.107	0.332*		-0.065	-0.02
		-0.105	-0.195		-0.125	-0.291
Board_NoFamily		0.226**	0.123		-0.047	-0.049*
		-0.112	-0.23		-0.056	-0.027
Board_Male		-0.396***	-0.722***		-0.005	0.158
		0.11	0.258		-0.196	-0.615
Board_Female		0.116	0.058		-0.528**	-0.575*
		0.232	0.294		-0.231	-0.31
Difficulty_fin				0.136	0.104	0.164
				-0.139	-0.128	-0.132
Professional_Serv	0.262	0.342	0.388	-1.243**	-1.394***	-0.93
	-0.42	-0.532	-0.534	-0.583	-0.469	-0.645
Firm_Age	0.076**	0.102***	0.083**	0.037*	0.014	0.018
	-0.038	-0.036	-0.037	-0.022	-0.026	-0.019
Tot_Assets	-0.01	-0.002	0.012	-0.555***	-0.538***	-0.578**
	-0.206	-0.161	-0.185	-0.134	-0.131	-0.151
Sales_Grw	0.764***	0.674***	0.932***	-0.268	-0.055	-0.417
	-0.249	-0.247	-0.329	-0.23	-0.291	-0.433
R&D_TSales	-0.275*	-0.243*	-0.445**	0.458**	0.382**	0.467***
	-0.145	-0.134	-0.193	-0.211	-0.171	-0.183

Note: **, **, *** shows statistical significance at the level of 10%, 5% and 1% , respectively.*

Conclusion

SMEs play a significant role in the Malaysian economy, and their contribution to GDP is expected to increase. However, the main challenge limiting SMEs' ability to grow and increase their productivity is poor access to capital and financing. Most of the prior research focuses on corporate governance and SMEs' performance. However, the main contribution of this study is to examine the effect of corporate governance and the use of fintech financing among Malaysian SMEs. Based on 90 respondents, and using the Heckman selection model and the marginal effect model, the results show that SMEs facing financial constraints have no relationship with the decision to apply for finance, or choosing fintech platforms to raise the required funds. Other than that, the CEOs' duality positively influences the decision to choose capital financing through fintech. This positive preference for the fintech platform might be due to it offering lower-cost financing and taking less time to access capital, compared to conventional banking facilities. Surprisingly, the results reveal that having expert members on the board does not influence the decision either to apply for, or choose, an alternative medium of financing. The financial benefit of having board members with knowledge of accounting and finance to map business operations and support growth at different stages is yet to be seen. However, advice from professionals does influence the SMEs' decision to choose fintech to obtain finance, albeit negatively. They prefer companies which are less dependent on alternative financing, even though the traditional financial institutions are not as easy to access.

In terms of board diversity, males positively influence SMEs to apply for financing, although not necessarily through fintech. Having wider networks than females, male board members may have less difficulty in approaching traditional financial institutions and do not need to focus on alternative methods of financing. Female board members do influence the decision to obtain the capital needed through fintech platforms. When SMEs have board members with no family affiliations, the decision to apply for external debt financing increases, whereas family board members only exert their influence when the company decides to choose a fintech platform to obtain the capital it needs. Family members, who are involved in company management, have little influence on applying for financing or choosing fintech as the medium.

The findings from this study have important implications for policy makers and regulators, financial institutions, and researchers. They contribute to the body of knowledge by exploring fintech financing as a medium used to access funding by Malaysian SMEs; this is rarely reported in the literature. This study also examined the use in fintech financing of aspects of corporate governance mechanisms, especially board structure. Therefore, it encourages policy makers and regulators to explore the corporate governance mechanisms that influence SMEs to obtain finance through a fintech platform, further designing and strengthening corporate governance to enhance the SMEs' growth.

However, the current study has limitations that should be considered for future research. First, data were collected via a survey questionnaire based on a random sampling of SMEs, with a very low response rate as a result of the COVID 19 restrictions. Future studies are recommended to extend the current framework on SMEs' behavior toward fintech financing after the pandemic. Second, the survey data could be subject to sampling bias, making it difficult to accurately measure a true representative sample. Hence, the results do not characterize all Malaysian SMEs. Finally, the variables used in the current study are not comprehensive, and future studies should include others, coupled with moderating or mediating effects, to have more inclusive findings.

References

Abor, J. & Biekpe, N. (2007). Corporate governance, ownership structure and performance of SMEs in Ghana: implications for financing opportunities. *Corporate Governance,* 7(3): 288-300.

Abor, J. &Biekpe, N. (2009). How do we explain the capital structure of SMEs in sub-Saharan Africa? Evidence from Ghana. *Journal of Economic Studies*, 36(1), 83-97.

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94(2), 291-309.

Adams, R. B., & Funk, P. (2012). Beyond the glass ceiling: Does gender matter? *Management Science*, 58(2), 219-235.

Ahern, K. R., & Dittmar, A. K. (2012). The changing of the boards: The impact on firm valuation of mandated female board representation. *The quarterly journal of economics*, 127(1), 137-197.

Akther, R. (2022). Factors associated with small and medium enterprise financing: a study from Bangladesh. *Journal of Global Entrepreneurship Research*, 12, 265 - 277.

Altomonte, C., Gamba, S., Mancusi, M. L., &Vezzulli, A. (2016). R&D investments, financing constraints, exporting and productivity. *Economics of Innovation and New Technology*, 25(3), 283-303.

Alves, P., Couto, E. B., & Francisco, P. M. (2015). Board of directors' composition and capital structure. *Research in International Business and Finance*, 35, 1-32.

Ampenberger, M., Schmid, T., Achleitner, A. K., &Kaserer, C. (2013). Capital structure decisions in family firms: empirical evidence from a bank-based economy. *Review of Managerial Science*, 7(3), 247-275.

Anandasayanan, S., &Velnampy, T. (2018). Corporate Governance and Corporate Profitability of Listed Diversified Holding Companies in Sri Lanka. *International Journal* *of Accounting and Financial Reporting*, 8(1), 294-304.

Anderson, R. C., Mansi, S. A., &Reeb, D. M. (2003). Founding family ownership and the agency cost of debt. *Journal of Financial Economics*, 68(2), 263-285.

Antoniou, A., Guney, Y., &Paudyal, K. (2008). The Determinants of Capital Structure: Capital Market Orientedversus Bank Oriented Institutions. *Journal of Financial and Quantitative Analysis*, 43(1), 59-99.

Arif, M., Hasan, M., Shafique Joyo, A., Gan, C., & Abidin, S. (2020). Formal Finance Usage and Innovative SMEs: Evidence from ASEAN Countries. *Journal of Risk and Financial Management*, 13(10), 222.

Arosa, B., Iturralde, T. &Maseda, A. 2010. Ownership structure and firm performance in non-listed firms: Evidence from Spain. *Journal of Family Business Strategy* 1(2): 88-96.

Arosa, B., Iturralde, T., &Maseda, A. (2013). The board structure and firm performance in SMEs: Evidence from Spain. *Investigaciones Europeas de Dirección y Economía de la Empresa*, 19(3), 127-135.

Ball, S., Eckel, C. C., &Heracleous, M. (2010). Risk aversion and physical prowess: Prediction, choice and bias. *Journal of Risk and Uncertainty*, 41(3), 167-193.

Bankewitz, M. (2016). Boards' Different Advisory Tasks–What Makes Board Members Use Their Knowledge? *American Journal of Management*, 16(1), 54-69

Bärnighausen, T., Bor, J., Wandira-Kazibwe, S., & Canning, D. (2011). Correcting HIV prevalence estimates for survey nonparticipation using Heckman-type selection models. *Epidemiology*, 22(1), 27-35.

Bigsten, A., Collier, P., Dercon, S., Fafchamps, M., Gauthier, B., Gunning, J.W., Oduro, A., Oostendorp, R., Patillo, C., Söderbom, M. and Teal, F., (2003). Credit constraints in manufacturing enterprises in Africa. *Journal of African Economies*, 12(1), 104-125.

Bloom, N., Mahajan, A., Mckenzie, D., & Roberts, J. (2010). Why do firms in developing countries have low productivity? *American Economic Review*, 100(2), 619-623.

Blumentritt, T. (2006). The relationship between boards and planning in family businesses. *Family Business Review*, 19(1), 65-72.

Brunninge, O., Nordqvist, M., &Wiklund, J. (2007). Corporate governance and strategic change in SMEs: The effects of ownership, board composition and top management teams. *Small Business Economics*, 29(3), 295-308.

Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review*, 18(5), 396-414.

Certo, S. T., Busenbark, J. R., Woo, H. S., &Semadeni, M. (2016). Sample selection bias and Heckman models in strategic management research. *Strategic Management Jour-*

nal, 37(13), 2639-2657.

Chebukhanova, L., & Blokhina, T. (2020). Problems of Alternative Financing For Innovative SME in Russia. Proceedings of INTCESS 2020- 7th International Conference on Education and Social Sciences 20-22 January, 2020 - DUBAI (UAE)

Chou, F.Y. and Wang, B.C., (2009). The innovation and learning system for small and medium enterprises: a governance perspective. *International Journal of Business Research*, 9(5): 76-86.

Clougherty, J. A., Duso, T., & Muck, J. (2016). Correcting for self-selection based endogeneity in management research: Review, recommendations and simulations. *Organizational Research Methods*, 19(2), 286-347.

Constantinidis, C., Cornet, A., &Asandei, S. (2006). Financing of women-owned ventures: The impact of gender and other owner-and firm-related variables. *Venture capital*, 8(02), 133-157.

Cornelli, G., Davidson, V., & Frost, J. (2019). SME Finance in Asia: Recent Innovations in Fintech Credit, Trade Finance, and Beyond. ADBI Working Paper Series.

Croci, E., Doukas, J. A., &Gonenc, H. (2011). Family control and financing decisions. *European Financial Management*, 17(5), 860-897.

Dasilas, A., &Papasyriopoulos, N. (2015). Corporate governance, credit ratings and the capital structure of Greek SME and large listed firms. *Small Business Economics*, 45(1), 215-244.

Datta, S., Doan, T., & Toscano, F. (2021). Top executive gender, board gender diversity, and financing decisions: Evidence from debt structure choice. *Journal of Banking & Finance*, 125, 106070.

Delić, A., Oberman Peterka, S., &Kurtović, I. (2016). Is there a relationship between financial literacy, capital structure and competitiveness of SMEs? *Ekonomskivjesnik: Review of Contemporary Entrepreneurship, Business, and Economic Issues*, 29(1), 37-50.

Degryse, H., Matthews, K., & Zhao, T. (2017). Relationship banking and regional SME financing: the case of Wales. *International Journal of Banking, Accounting and Finance*, 8(1), 93-118.

Djan, G. O., Zehou, S., &Bawuah, J. (2017). Board gender diversity and dividend policy in SMEs: Moderating role of capital structure in emerging market. *Journal of Research in Business, Economics and Management*, 9(2), 1667-1676.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The journal of law and Economics*, 26(2), 301-325.

Faccio, M., Marchica, M. T., & Mura, R. (2016). CEO gender, corporate risk-taking, and the efficiency of capital allocation. *Journal of corporate finance*, 39, 193-209.

Gabrielsson, J., &Winlund, H. (2000). Boards of directors in small and medium-sized industrial firms: examining the effects of the board's working style on board task performance. *Entrepreneurship & Regional Development*, 12(4), 311-330.

Gabrielsson, J. (2007). Correlates of board empowerment in small companies. *Entrepreneurship Theory and Practice*, 31(5), 687-711.

Ganiyu, Y. O., & Abiodun, B. Y. (2012). The impact of corporate governance on capital structure decision of Nigerian firms. *Research Journal in Organizational Psychology & Educational Studies*, 1(2), 121-128.

Gkliatis, I. (2009). Boards of directors and financial Performance: A combination of agency and dependence theory perspectives. In *BBS Doctoral Symposium*.

Gill, A., Biger, N., Mand, H. S., & Shah, C. (2012). Corporate governance and capital structure of small business service firms in India. *International Journal of Economics and Finance*, 4(8), 83.

Gottardo, P., &Moisello, A. M. (2014). The capital structure choices of family firms. *Managerial Finance*.

Green, C. P., &Homroy, S. (2018). Female directors, board committees and firm performance. *European Economic Review*, 102, 19-38.

Hamad, S. B., & Karoui, A. (2011). The SMEs governance mechanisms practices and financial performance: Case of Tunisian industrial SMEs. *International Journal of Business and Management*, 6(7), 216.

Halevi, M. Y., Carmeli, A., &Brueller, N. N. (2015). Ambidexterity in SBUs: TMT behavioral integration and environmental dynamism. *Human Resource Management*, 54(S1), 223-238.

Hart, O. (1995). Corporate governance: some theory and implications. *The economic journal*, 105(430), 678-689.

Heng, T. B., Azrbaijani, S., & San, O. T. (2012). Board of directors and capital structure: Evidence from leading Malaysian companies. *Asian Social Science*, 8(3), 123-136.

Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S. (2019). Adoption intention of FinTech services for bank users: An empirical examination with an extended Technology Acceptance Model. *Symmetry*, 11(3), 340.

Ivashchenko, A., Britchenko, I., Dyba, M., Polishchuk, Y., Sybirianska, Y., &Vasylyshen, Y. (2018). Fintech platforms in SME's financing: EU experience and ways of their application in Ukraine, 14(3), 83-96.

Jagtiani, J., & Lemieux, C. (2018). Do fintech lenders penetrate areas that are underserved by traditional banks? *Journal of Economics and Business*, 100, 43–54.

Jaskiewicz, P., & Klein, S. (2007). The impact of goal alignment on board composition and board size in family businesses. *Journal of Business research*, 60(10), 1080-1089.

Johannisson, B., &Huse, M. (2000). Recruiting outside board members in the small family business: An ideological challenge. *Entrepreneurship & Regional Development*, 12(4), 353-378.

Kaczmarek, S., Kimino, S., & Pye, A. (2012). Board task-related faultlines and firm performance: A decade of evidence. *Corporate Governance: An International Review*, 20(4), 337-351.

Khan, M. A., Siddique, A., Sarwar, Z., Minh Huong, L. T., & Nadeem, Q. (2020). Determinants of entrepreneurial small and medium enterprises performance with the interaction effect of commercial loans. *Asia Pacific Journal of Innovation and Entrepreneurship*, 14(2), 161-173.

Kuo, H. C., Wang, L. H., & Liu, H. (2012). Corporate governance and capital structure: Evidence from Taiwan SMEs. *Review of Economics and Finance*, 2, 43-58.

Le Breton–Miller, I., & Miller, D. (2006). Why do some family businesses out–compete? Governance, long–term orientations, and sustainable capability. *Entrepreneurship theory and practice*, 30(6), 731-746.

Lussuamo, J. M., &Serrasqueiro, Z. (2020). Restrictions on access to bank finance for SMEs in Cabinda–Angola. *Small Enterprise Research*, 27(3), 275-288.

Lybaert, N. (1998). The information use in a SME: its importance and some elements of influence. *Small business economics*, 10(2), 171-191.

Mac an Bhaird, C., & Lucey, B. (2010). Determinants of capital structure in Irish SMEs. *Small business economics*, 35(3), 357-375.

Miller, T., & del Carmen Triana, M. (2009). Demographic diversity in the boardroom: Mediators of the board diversity–firm performance relationship. *Journal of Management studies*, 46(5), 755-786.

Mishra, C. S., & McConaughy, D. L. (1999). Founding family control and capital structure: The risk of loss of control and the aversion to debt. *Entrepreneurship theory and practice*, 23(4), 53-64.

Musteen, M., Barker III, V. L., &Baeten, V. L. (2006). CEO attributes associated with attitude toward change: The direct and moderating effects of CEO tenure. *Journal of Business Research*, 59(5), 604-612.

Na, K., Lee, Y., & Yu, H. (2023). CEO type and earnings management to avoid loss or earnings decreases: Evidence from South Korea. *Gadjah Mada International Journal of Business*, 25(2), 227-254.

Nazir, M. S., & Javaid, A. (2018). *Corporate Governance on Financing Policy: Mediating Role of Cost of Capital*. ToKnowPress.

Pasaribu, P. (2017). Female directors and firm performance: Evidence from UK listed firms. *Gadjah Mada International Journal of Business*, 19(2), 145-166.

Pindado, J., Requejo, I., & de La Torre, C. (2015). Does family control shape corporate capital structure? An empirical analysis of Eurozone firms. *Journal of Business Finance & Accounting*, 42(7-8), 965-1006.

Prasad, B., &Junni, P. (2016). CEO transformational and transactional leadership and organizational innovation. *Management Decision*, 54(7), 1542-1568.

Ramalho, J. J., Rita, R. M., & da Silva, J. V. (2018). The impact of family ownership on capital structure of firms: Exploring the role of zero-leverage, size, location and the global financial crisis. *International Small Business Journal*, 36(5), 574-604.

Rossi, F., Cebula, R. J., & Barth, J. R. (2018). Female representation in the boardroom and firm debt: empirical evidence from Italy. *Journal of Economics and Finance*, 42(2), 315-338.

Saidia, A. A., Ayodele, M. S., & Maxwell, W. P. (2021). Firm level strategy and value creation in small businesses: the Nigerian experience. *Gadjah mada international journal of business*, 23(2), 193-214.

Sarvašová, Z., Quiroga, S., Suárez, C., Ali, T., Lukmine, D., Đorđević, I., &Hrib, M. (2018). Understanding the drivers for Natura 2000 payments in forests: A Heckman selection analysis. *Journal for Nature Conservation*, 46, 28-37.

Schmid, T. (2013). Control considerations, creditor monitoring, and the capital structure of family firms. *Journal of Banking & Finance*, 37(2), 257-272.

Solakoglu, M. N., & Demir, N. (2016). The role of firm characteristics on the relationship between gender diversity and firm performance. *Management Decision*, 54(6), 1407-1419.

Strebulaev, I. A., & Yang, B. (2013). The mystery of zero-leverage firms. *Journal of Financial Economics*, 109(1), 1-23.

Uddin, M. A. (2014). Problems faced by micro, small and medium enterprises in raising debt capital. *Proceedings of the Social Sciences ICSSR*.

Usman, M., Farooq, M. U., Zhang, J., Makki, M. A. M., & Khan, M. K. (2019). Female directors and the cost of debt: does gender diversity in the boardroom matter to lenders?. *Managerial Auditing Journal*, 34(4), 374-392.

Uyar, A., &Guzelyurt, M. K. (2015). Impact of firm characteristics on capital structure choices of Turkish SMEs. *Managerial Finance*, 41(3), 286-300.

Van den Heuvel, J., Van Gils, A., &Voordeckers, W. (2006). Board roles in small and medium-sized family businesses: Performance and importance. *Corporate Governance: An International Review*, 14(5), 467-485.

Vance, C. (2009). Marginal effects and significance testing with Heckman's sample selection model: a methodological note. *Applied Economics Letters*, 16(14), 1415-1419.

Wahab, K.A., &Abdesamed, K. H. (2012, December). Small and medium enterprises

(SMEs) financing practice and accessing bank loan issues- The case of Libya. In *Proceedings of World Academy of Science, Engineering and Technology* (No. 72, p. 1535). World Academy of Science, Engineering and Technology (WASET).

Waldman, D. A., Ramirez, G. G., House, R. J., & Puranam, P. (2001). Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty. *Academy of management journal*, 44(1), 134-143.

Yazdanfar, D., &Öhman, P. (2014). Life cycle and performance among SMEs: Swedish empirical evidence. *The Journal of Risk Finance*, 15(5), 555-571.

Zulridah, M. N., & Iskandar, T. M. (2012). Corporate governance and corporate failure: A survival analysis. *PERKEM VII Proceeding*, 1, 684-695.

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Indonesian Consumer Complaint Behavior Based on Ethnic Groups and Generations

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Abstract: Complaint behavior is a response to consumer dissatisfaction after using goods or services. This study aimed to examine the effect of ethnicity and people's generations on consumer complaint behavior in Indonesia. The variables used were complaint behavior, ethnicity, and generations. The study collected and analyzed 2,100 items of data using descriptive analysis, one-way ANOVA, and multiple linear regression. The findings showed that consumers in Indonesia rarely complain when disappointed with sellers. Generation Y and the Buginese complained more often than other consumer groups. Furthermore, the results showed significant differences in complaint behavior, based on ethnicity and generation. This study also revealed that complaint behavior was significantly influenced by ethnicity and the baby boomer generation.

Keywords: complaint behavior, ethnicities, generations
JEL Classification: D18, M31

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Introduction

Rapid advancements in information technology have made products and services more readily available to consumers. However, as their need for goods and services continues to grow, many consumers' expectations are not being met, resulting in complaints about their dissatisfaction with the products and services they have received. In line with this, Krüger and Mostert (2019) defined complaint behavior as a response to consumer dissatisfaction after using goods or services. Consumer complaint should be carried out so that consumers get the expected service (Mardhiyah & Dharmmesta, 2013).

There are various options for handling consumer complaints and resolving disputes. The applicable regulations require business actors to have a mechanism for handling consumer complaints. Disputes could be resolved through the courts, or out-of-court procedures, based on the agreement of the consumers and business actors involved. In Indonesia, the Consumer Protection Law Number 8 of 1999 established the Consumer Dispute Settlement Body (BPSK) to handle consumer complaints and resolve disputes. This is regulated in Chapter XI articles 49-58. BPSK is obligated by Article 52 paragraph (1) to handle and settle consumer disputes through mediation, arbitration, or conciliation. However, consumers could also submit their complaints to the National Consumer Protection Agency (BPKN), an institution formed based on the CP Law. BPKN provides advice and consideration to the government to develop consumer protection in Indonesia (Article 33). Therefore, Article 34 paragraph (1) (f) mandates BPKN to receive complaints about consumer protection from the public, non-governmental consumer protection institutions, or business actors.

The Consumer Empowerment Index (CEI) measurement, conducted by the Ministry of Trade of the Republic of Indonesia (2022), shows that Indonesian consumers have a CEI value of 53.23, which is classified as "capable." This means that consumers are capable of exercising their rights and obligations to make informed decisions. Complaint behavior is the lowest of the seven dimensions measured, with an index of only 34.36. This means the public does not respond well to complaints, and the intended recipient is not widely known. Most of the respondents in this study who made complaints were categorized as "rarely" (1-2 times) and "never" at 50.31% and 39.17%, respectively. This data indicates the community's low response rate to filing complaints (Ministry of Trade RI, 2022). On average, only 4.1 consumer complaints are received from every 1 million Indonesians, compared to 64 complaints occurring per 1 million South Koreans.

Data from the Ministry of Trade of the Republic of Indonesia shows that 42% of consumers with issues do not file complaints, for various reasons. These reasons include the perceived insignificance of the problem (37.0%), lack of knowledge on where to complain (24.0%), the complexity and time-consuming nature of the complaint procedure

(20.0%), and perceived familiarity with the seller (6.0%) (M. Simanjuntak & Hamimi, 2019). Previous research also suggests that complaining to the company is futile (Mardhiyah & Dharmmesta, 2013). This occurs as a result of the company's poor handling of customer complaints. In reality, complaints from consumers are one of the risks that must be considered by companies (Rizi et al., 2023). The company must have effective management of its customer relationships, to establish lasting ties with its customers (Nirmala & Dewi, 2011).

The National Agency for Consumer Protection of Indonesia stated that complaint behavior is uncommon among Indonesian consumers, triggering the low CEI. In 2022, 1,041 complaints were submitted, with the majority being about services, followed by e-commerce, and housing. This translates to an average of 87 complaints per month. In 2022, the mapping by BPKN indicated that consumers aged 28 to 38 filed the most complaints. This was followed by consumers aged 39 to 49, 17 to 27, and 50 to 60 in second, third, and fourth places, respectively (BPKN, 2022). Therefore, solving these issues requires that consumers be encouraged to assert their rights by lodging complaints when they feel harmed.

The Indonesian Consumers Foundation report in 2019 shows that the financial services sector received the highest number of complaints, at 46.9%. It was followed by the housing, e-commerce, electricity, and telecommunication sectors at 14.4%, 6.3%, 4.2%, and 4.1%, respectively (Abadi, 2020). This number is lower than the number of consumer complaints in China, which reached 762,247 (CCA, 2020). The number is also lower than in South Korea, where 64 consumer complaints occur for every 1 million people. In Malaysia, the National Consumer Complaints Centre (NCCC) received 5,618 complaints in 2018. Most complaints were filed about the e-commerce sector, which increased by 39% from 2014. In Indonesia, only four consumer complaints are received per 1 million people. This is because 44% and 15% of consumers prefer complaining directly to the sellers and producers, respectively.

Studies have shown that several factors influence complaint behavior. These factors include the product, consumers' attitudes, values, self-motivation, personality, culture, and experience (Ekinci et al., 2016; Jokohael et al., 2017; Lestari & Molina, 2019; Wandani & Simanjuntak, 2019). Complaint behavior is also influenced by the consumers' cultural background (Ghoni & Bodroastuti, 2012). Culture is a hallmark of ethnic diversity in Indonesia, which has around 1,340 ethnic groups spread throughout the provinces (Durand & Valla, 2008). Ethnicity is a multifaceted and dynamic concept that develops and strengthens relationships when communities interact around cultural similarity (McGoldrick et al., 2014). This means that understanding ethnicity and race, as applied to oneself and others, affects the interactions among individuals (Suyemoto et al., 2020). In

Indonesia, the Javanese, Sundanese, Batak, Buginese, and Malay are among the largest ethnicities (Durand & Valla, 2008). Therefore, these communities have become a factor influencing consumers' complaint behavior in responding to post-purchase dissatisfaction (Heung & Lam, 2012).

Previous studies also found a positive relationship between a person's age or generation and complaint behavior (Ngai et al., 2007; Phau & Baird, 2008). Generation refers to a group of individuals born during the same period and experiencing similar external events (Smola & Sutton, 2002). The differences in lifespan result in distinct characteristics for each generation. The resulting categories include baby boomers, born between 1946 and 1964, as well as generations X, Y, and Z born between 1965 and 1977, 1977 and 1994, and 1995 and 2010, respectively (Page & Williams, 2011). The last group is Generation Alpha, born between 2010 and 2025 (Lamble, 2018; Ramadlani & Wibisono, 2017).

Many studies have examined the factors influencing complaint behavior, but little comparison has been made based on a person's ethnicity and generation. Therefore, this study aimed to analyze the complaint behavior of people of Javanese, Sundanese, Batak, Buginese, Malay, and other ethnicities. It also compared the complaints made by baby boomers, as well as generations X, Y, and Z. The goal was to examine the influence of a person's ethnicity and generation on complaint behavior in Indonesia. Analyzing the effect of age and ethnicity is important, because the data about consumer complaints is diverse when age is considered. The conclusions obtained would help determine the generations that need prioritizing and the protection programs to be implemented. Knowing the social representations and colloquial understandings of ethnicity and age would contribute to increasing the study's validity. Additionally, the findings would facilitate the creation of effective educational interventions to address consumer protection.

Literature Review

Consumer Complaint Behavior

Complaint behavior comprises responses caused by psychological dissatisfaction after consuming products or services (Kumar & Kaur, 2022; Zain, 2011). Consumer complaint behavior (CCB) is a behavioral and non-behavioral response triggered by post-purchase dissatisfaction (Mousavi & Esfidani, 2013). CCB is an important field linking the streams of service failure and recovery (Arora & Chakraborty, 2021). There are four types of complaint behavior, including (1) passive or a consumer that does not take any action, (2) voicers who complain to service providers, rarely spread negative word-of-mouth, and turn to protection agencies or third parties, (3) irate consumers who submit complaints to friends and relatives, or other service providers, and (4) activists who have a higher tendency to complain to service providers, relatives, friends, and third parties (Zeithaml et al., 2004).

Ashraf et al. (2013) stated that complaint behavior is positively influenced by attitude. Consumers are more likely to file a complaint when they understand that a product is expensive, frequently used, and noticeable by others (Nor Othman et al., 2010). This study focuses on active voice responses, when consumers are dissatisfied with the seller's intention and behavior.

Ethnic Characteristics

Indonesia is home to around 1,300 ethnic groups, with various characteristics and traditions existing in each province (Durand & Valla, 2008). Ethnicity reflects a region's cultural trait that influences basic impulses and behaviors. Indonesia has a collectivist culture, where dissatisfied consumers tend to tell friends, or remain quiet to maintain social harmony or avoid confrontation (Heung & Lam, 2012). In contrast, consumers in individualistic countries such as America, Australia, Germany, France, Turkey, and the UK are more likely to complain directly to companies or use third parties.

In Indonesia, the Javanese are the largest ethnic group, whose culture upholds politeness and simplicity. This ethnic group is typically shy, obedient, hardworking, conflict-averse, and ethical (Heri, 2016). Furthermore, Javanese people are generally refined, slow to act, feudalistic, humble in speech and behavior, and always consider their age and social status to show respect (Octaviani & Kartasasmita, 2017).

Another ethnic group is the Sundanese, whose personality is relaxed and uncomplicated, and assess problems calmly. The culture in this society upholds togetherness and politeness in high regard, explaining their generosity and kindness, especially the elderly. The Sundanese are optimistic, friendly, polite, cheerful, and unpretentious. Additionally, these people are educated to be *handap asor*, implying humility and politeness (Hidayah, 2015).

The Batak ethnicity in Indonesia has solid customs and a confident speaking style. Their cultural value system is passed down through generations and influences their social behavior and community life. Their behavior is influenced by nine central cultural values, including kinship, religion, *hagabeon* (descendants), *hasangapon* (nobility, dignity, and charisma), *hamoraon* (wealth), *hamajuon* (progress), *patik dohot uhum* (upholding truth, justice, and law), *pengayoman* (protector of welfare), and *marsisarian* (understanding, respect, and mutual help) (Simandjuntak, 2002). This tough character gives the Batak people the courage to complain directly to the seller if they feel disadvantaged when consuming goods or services (Wandani & Simanjuntak, 2019).

The Buginese ethnicity has basic principles known as *ade, bicara, rapang, wari,* and *sara*, collectively referred to as *pangngadereng*. *Ade* represents a flexible attitude toward social norms, while *rapang* sets good behavior standards for the community. *Wari* governs descent and social hierarchy, and *sara* is consistent with Islamic law. Moreover, *siri* provides firm principles for Bugis' behavior (Anonymous, 2020). The Buginese ethnic group also has a life philosophy called *getteng, lempu,* and *tonging*. *Getteng* embodies a brave and confident attitude toward expressing what is right and wrong (Rahmi et al., 2017). This strong personality and firm convictions allow the Buginese people to express themselves explicitly, and they are even willing to commit violence (Latief, 2016).

The Malay ethnic group is cultural and non-genealogical, gentle, energetic, and with a strong desire to advance, as seen in their polite speech and tendency to avoid taboos and sins. The Malayans attach importance to law enforcement, showing courtesy, and they prioritize knowledge. In this community, problems are resolved by deliberation and consensus, as the foundation of social life (Susanti et al., 2015).

Cross-Generational Characteristics

The baby boomer generation, born between 1946 and 1964, is characterized by busy individuals with high incomes due to their multiple careers (Page & Williams, 2011). These individuals are more risk-taking and quicker at making decisions than the other generations. However, they have the lowest complaint behavior due to their willingness to accept losses (Cipriana et al., 2010).

Generation X, born between 1965 and 1977, consists of independent and reserved individuals with great potential (Kohnen, 2002). This group is highly involved in decision-making and considered to be independent. Additionally, the individuals realize diversity, think broadly, are more family-oriented, and have a balanced work-life (Kolnhofer-Derecskei et al., 2017).

Generation Y, born between 1977 and 1994 (Smola & Sutton, 2002), is known for its image consciousness and ability to recognize self-behavior patterns (Khan et al., 2014). This generation has lower brand loyalty, due to being exposed to more influential price promotions. They prioritize quality and brand, have a preference for new things, and hedonism when shopping. Moreover, these consumers seek products and brands that match their personality, lifestyle, social values, and community (Mafini et al., 2014).

Generation Z, born between 1995 and 2010, is more connected socially through cyberspace. Since childhood, these individuals have been familiar with technology and smartphones, and they are creative (Kohnen, 2002). The demographics guarantee that the next generation will be more diverse than the millennials. However, unique demographics are unlikely to change much over time, and are often the basis for opinion dynamics on issues (Childs et al., 2015).

Relationship between Ethnicity and Complaint Behavior

Individualistic cultures express themselves by voicing complaints more than collectivist ones do (Liu & McClure, 2001), because purchasing behavior is influenced by cultural factors. In this regard, the highest number of direct and indirect complaints are filed by individualists and collectivists, respectively. The unique characteristics of individualistic and collective cultures substantially influence people's attitudes and behavior (Jokohael et al., 2017). Consumers from different cultures express distinct complaints and perceptions about service recovery efforts (Park et al., 2014). Culture is the driving force for differences in compensation-seeking behavior (Blodgett et al., 2015). Studies have shown that culture influences consumers' behavior and future actions (Ghoni & Bodroastuti, 2012). According to Wandani & Simanjuntak (2019), the Buginese have the highest average complaint motivation, more so than the Javanese or Batak. Based on these results, the following hypotheses are formulated:

H1: Ethnicity significantly affects complaint behavior

H1a: Complaint behavior varies significantly based on ethnicity

Relationship between Generation and Complaint Behavior

Age differences affect the act of reporting unsatisfactory experiences (Mahmud Mahayudin et al., 2010). According to Grougiou & Pettigrew (2009), older consumers' complaint behavior is significantly different and decreases with age. The older generation complains using negative word-of-mouth, while younger individuals write their complaints on electronic media (Ting et al., 2016). Generation Y actively uses social networks and tend to stay with a service provider after experiencing satisfactory recovery but are more inclined to complain (Soares et al., 2017). In this generation, younger individuals often complain when dissatisfied with a service (Yang, 2012). The baby boomers rarely complain, because they quickly accept any post-purchase dissatisfaction (Sharma et al., 2012). These findings show that generational differences affect the consumers' position in making complaints regarding service dissatisfaction (Harrington et al., 2012). Most studies have shown that most complaints are lodged by younger people (Ngai et al., 2007; Tronvoll, 2007). Age relates positively to complaint behavior, where the younger generation is more willing to complain because it has more time (Phau & Baird, 2008). Moreover, Generation Y's complaint behavior in online shopping is influenced by their gender, lifestyle, and the number of social media accounts (Megawati Simanjuntak, 2019). Based on these results, the following hypotheses are proposed:

H2: The generation significantly affects complaint behavior

H2a: Complaint behavior varies significantly based on the generation

The Conceptual Framework

This study hypothesized that people's ethnicity and generation differ and influence their complaint behavior. The conceptual framework is presented in Figure 1.

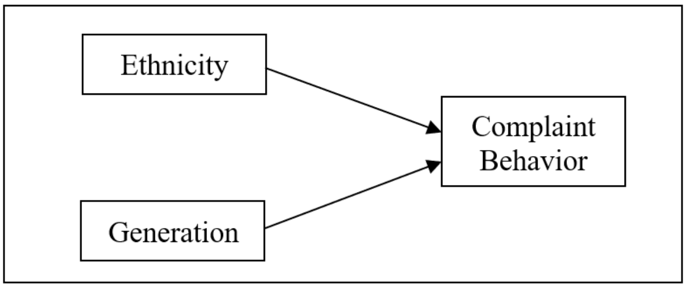

Figure 1. The conceptual framework

Methods

This study used explanatory and descriptive approaches in 14 Indonesian provinces, representing families from rural and urban locations. The sample comprised consumers aged from 17 to 60 years old, who made consumption decisions independently and had filed at least one complaintfor the last three years. The respondents experienced disappointment when purchasing goods or services and filed complaints.

The sample size was determined by quota sampling, where 150 respondents were taken from each province, comprising 75 consumers from rural areas, and 75 from urban areas. A total of 14 of the 34 provinces were selected to represent the western, eastern, and central regions of Indonesia, resulting in 2,100 respondents.

Cities or districts and sub-districts were selected purposively, while villages, neighborhood units (RW) and (RT), households, and respondents were determined randomly. Systematic random sampling was applied to ensure that each household had an equal opportunity to be selected. This sampling technique makes it easier to draw a systematic sample in the field. Furthermore, systematic samples provide more accurate estimators when explicit or implicit stratifications are present in the sampling frame (Mostafa & Ahmad, 2018). In this study, households were determined using intervals for regular settlement conditions, or consecutive house numbers. When the first sample starts from household number 1 and the interval is 3, the preceding samples are households with numbers 5, 9, and 13 in that order. The next number of households was sampled in the case of an interview failure to avoid replacing predetermined samples.

Household respondents were determined using the Kish grid method, developed by Leslie Kish (1910-2000), a Hungarian-born American statistician. The Kish grid is a random method of selecting respondents within households. This rigorous method was developed when most interviews were conducted in person. Once a household is selected, a list of all the individuals eligible to participate in an interview is created. This list includes each person's name, gender, relationship to the household head, and age. Each eligible member is assigned a unique number and specific members are selected for interviews using a random response form. Therefore, the Kish grid was used to randomly sample family members and reduce bias in the survey (Kish, 1949).

In this study, the tribe was initially not considered for sample selection during data collection, to ensure that the resulting distribution represented the different ethnicities in Indonesia. This was reflected in the data collected, where four dominant ethnicities appeared, including Javanese, Sundanese, Batak, and Buginese. Other ethnicities did not appear because the percentage was small, even when combined with other ethnicities.

Show cards were used to interview the respondents, to minimize bias that might influence the findings' generalizability. The show cards were pictures related to the question and answer options. The study instruments were tested by distributing questionnaires to 100 individuals who were not part of the main respondents. Furthermore, expert judgment for instruments was conducted by academics and consumer protection experts. The test resulted in instruments that were reliable and valid for all the study variables. Interviewers were also trained to emphasize the Kish-grid technique, to reduce sample selection bias.

The classic assumption test ensures that the regression equation obtained has an accurate estimation, is unbiased, and is consistent. The traditional assumption tests used were normality, autocorrelation, multicollinearity, and heteroscedasticity. The one-way ANOVA test is an analytical tool used to determine the average difference in a population group. This analysis highlights differences in complaint behavior based on a person's ethnicity and generation. Therefore, the post-hoc test was used to measure differences in complaint behavior based on ethnicity and generation. Multiple linear regression tests were employed to analyze the linear relationship between the independent variables (X1, X2…. Xn) and the dependent variable (Y).

Data were analyzed using descriptive, one-way ANOVA, and multiple linear regression analyses to test the hypotheses and determine the differences and influences of the generations and ethnic groups on complaint behavior. The complaint behavior referred to M. Simanjuntak (2019) and measured how often consumers complained to the sellers of the goods or services they purchased. The operational definitions and items for each variable are presented in Table 1.

Table 1. The conceptual framework

Variables	Operational definitions	Items	Code
Complaint behavior	The frequency of respondents complaining to the seller regarding purchase disappointments	1. Electronic or electrical equipment	PK_A1
		2. Food and drink	PK_A2
		3. Banking services	PK_A3
		4. Clothing, cosmetics, and shoes or sandals	PK_A4
		5. Vehicle (car or motorcycle)	PK_A5
		6. Public transportation	PK_A6
		7. Health services	PK_A7
		8. Electricity services	PK_A8
		9. Educational institution services	PK_A9
		10. Cellular telephone provider	PK_A10
Ethnic	Ethnicity reflects a region's cultural trait	1. Javanese	S_1
		2. Sundanese	S_2
		3. Batak	S_3
		4. Buginese	S_4
		5. Malay	S_5
		6. Others	S_6
Generation	A group of individuals born during the same period and experiencing similar external events	1. Baby boomers (born in 1946-1964)	G_1
		2. Generation X (born in 1965-1977)	G_2
		3. Generation Y (born in 1977-1994)	G_3
		4. Generation Z (born in 1995-2010)	G_4

Results

Characteristics

Table 1 shows that 49.4% of the respondents, or 1,038 people, belonged to Generation Y. The baby boomers had the lowest generational distribution, accounting for 7.6% of the respondents, or 159 people. The Javanese were the most likely to react, as represented by 20.8% of the respondents, or 436 people. The Malayans, Buginese, Sundanese, and Batak were represented by 279 (13.3%), 176 (8.4%), 176 (8.2%), and 138 (6.6%) respondents, respectively. The rest were categorized as other ethnicities.

Generation Y constituted the largest percentage of respondents, at 49.4% or 1,038 people. In contrast, baby boomers were the smallest generation, at 7.6% or 159 respondents. The Javanese answered most frequently, at 20.8% or 436 respondents. Furthermore, there were 279 Malays (13.3%), 176 Bugis (8.4%), 176 Sundanese (8.2%), and 138 Batak

(6.6%). The rest were classified as other ethnic groups.

Complaint Behavior based on Ethnicity

The intention to take complaint action is influenced by culture (Liu & McClure, 2001), which refers to a community's collective understanding of meaning. The importance of making a complaint is interpreted differently in each ethnic culture. Therefore, each culture provides a different understanding when making a complaint (Briones Alonso et al., 2018). Studies have shown that ethnic differences, such as cultural identity, affect complaint behavior. For instance, the Batak people uphold dignity and justice highly in submitting complaints directly to business actors when they feel disadvantaged after consuming goods and services (Ndona, 2018). In comparison, Javanese people are humble, highly tolerant, and only complain when the problem has peaked. They perceive purchasing problems as trivial and tend to keep quiet without complaining directly (Darmoko, 2017). The Bugis tribe values siri' and pacce, which means upholding self-respect and dignity. This ethnic group is forgiving and empathizes with the distress of others. Small losses experienced by Bugis consumers are easily forgiven without exhibiting complaint behavior (Syarif et al., 2016).

Table 2 shows the distribution of complaint behavior index categories based on ethnicity. Buginese respondents had moderate and high complaint behavior at 1.7% and 1.1%, respectively, while all Malayans were in the low category. Almost all the complaint behavior of each ethnicity was in the low category. A significant difference in complaint behavior between ethnicities (p-value=0.000) was found based on one-way ANOVA testing. Furthermore, the post-hoc presented significant differences between the Javanese and Sundanese, Batak, Malay, and the others. Table 2 presents the average index and the one-way ANOVA test of complaint behavior based on ethnicity.

Table 2. Complaint behavior category and ANOVA test based on ethnicity

Category	Javanese	Sundanese	Batak	Buginese	Malay	Others	p-value
Low	98.2	99.4	99.3	97.2	100.0	99.0	
Moderate	1.6	0.6	0.7	1.7	0.0	0.8	
High	0.2	0.0	0.0	1.1	0.0	0.2	
Index Average±Std	$21.1^{a}\pm13.6$	$11.9^{b}\pm 12.6$	$8.9^{c}\pm9.0$	24.4 ± 15.8	$15.9^{d}\pm12.4$	$17.2^{e}\pm13.8$	0.000**
Min-Max	0.0-90.0	0.0-60.0	0.0-60.0	0.0-100.0	0.0-53.3	0.0-93.3	

Note: *** p<0.01; different superscript letters indicate significant differences between ethnicities*

Complaint Behaviour based on the Generation

The results showed that most complaints from all the generations were in the low category.

One-way ANOVA testing found significant differences in complaint behavior between the baby boomers and generations X, Y, and Z. The results imply differences in the complaint behavior among the four generations. Moreover, the post-hoc test showed significant differences between baby boomers as well as generations X and Y. Table 3 shows the average results of the index and the one-way ANOVA test of complaint behavior by generation.

Table 3. Complaint behavior category and ANOVA test by generations

Category	Baby Boomers	Generation X	Generation Y	Generation Z	p-value
Low	99.4	97.8	99.2	100.0	
Moderate	0.6	1.8	0.6	0.0	
High	0.0	0.4	0.2	0.0	
Index Average±Std	14.5a±12.9	17.8b±15.2	17.9c±13.5	16.3±12.0	0.014*
Min-Max	0.0-60.0	0.0-93.3	0.0-100.0	0.0-53.3	

Note: ** p-value <0.05; Different superscript letters indicate significant differences between generations*

Effect of Ethnics and Generations on Complaint Behaviour

The classical hypothesis testing of the multiple linear regression showed that the data were normally distributed. The multicollinearity test found that the tolerance value of the data was >0.10, and the VIF value <10.0. The values indicated no multicollinearity, meaning the variables used were not autocorrelated. This could be seen from Durbin Watson's close to +2 value. Additionally, the absolute value of the residuals of variables exceeded 0.05, implying no heteroscedasticity.

The multiple linear regression analysis showed that several variables influenced the complaint behavior. The variables of Sundanese, Batak, Buginese, Malay, and other ethnicities significantly affected the complaint behavior (p-value=0.000). Furthermore, the baby boomer generation variable significantly affected complaints, while the variables of the other generations had no effect. The adjusted R-squared was 0.073, meaning that the ethnicities and generation variables explained only 0.73% of the complaint behavior. The rest was explained by other variables outside this study. The results are presented in Table 4.

Table 4. Multiple linear regression results of complaint behavior

Independent Variables	**p-value**
Ethnicities	
Java[1] (1=Java; 0=others)	
Sundanese (1=Sundanese; 0=others)	0.000 ***
Batak (1=Batak; 0=others)	0.000 ***
Buginese (1=Buginese; 0=others)	0.007 ***
Malay (1=Malay; 0=others)	0.000 ***
Others (1=Other ethnic; 0=others)	0.000***

Independent Variables	**p-value**
Generation	
Baby boomers (1=BB; 0=others)	0.081*
X (1=X; 0=others)	0.819
Y[1] (1=Y; 0=others)	
Z (1=Z; 0=others)	0.409
Adjusted R Square	0.073

Note: ** p-value<0.1; ** p-value<0.05; *** p-value<0.01; [1] exclude variable*

Discussion

The distribution of complaint behavior index categories, based on ethnicity, shows that the Buginese have moderate and high complaint behavior at 1.7% and 1.1%, respectively. However, the low category is as high, but the percentage is the lowest compared to those of the other ethnicities. This result means that those of Buginese ethnicity have the highest complaint behavior. The finding supports M. Simanjuntak (2019) that the personality and motivation of the Buginese are more potent than other ethnicities in making complaints. The Buginese people are more willing to express themselves explicitly, and have a tough character and firm convictions to maintain their stance, or even to commit violence (Latief, 2016). The one-way and ANOVA tests found significant differences between the ethnicities in complaint behavior. These findings support Park et al. (2014), who found that consumers from different cultures express distinct complaints and perceptions about service recovery.

The Javanese complaint behavior differs significantly from that of the Sundanese, Batak, and Malay. According to Helmi (2011), Javanese consumers are more hedonistic in shopping than Sundanese. This hedonistic style delivers more frequent purchases of goods, increasing the frequency of complaint behavior when harmed by the seller. In contrast, the Malayans are soft and tend to solve problems through deliberation (Susanti et al., 2015). This explains why Malay consumers rarely complain, because they think it would cause conflicts with the seller. The Batak ethnicity's complaints behavior is the lowest, though these people are assertive and should complain bravely. The ethnic Batak has a low complaint motivation compared with the Javanese and Buginese ethnic groups. Therefore, the motivation for complaints is the driving force for someone to take action (Wandani & Simanjuntak, 2019).

The one-way ANOVA test found significant differences in complaint behavior between the baby boomers and generations X, Y, and Z. This finding means that the complaint behavior of these four generations differs significantly. Baby boomers rarely complain because they prefer giving up losses (Cipriana et al., 2010). Furthermore, age relates positively to complaint behavior, where the younger generation easily files complaints because it has more time (Phau & Baird, 2008). Generation Y complains more often because it has been exposed to technology. Additionally, baby boomers often complain about banking services because of more experience in this field than the younger generation.

The multiple linear regression analyses show that being members of the Sundanese, Batak, Buginese, Malay, and other ethnic groups significantly affects their complaint behavior. Each ethnic group makes a complaint differently regarding dissatisfaction with the goods or services received. The Javanese and Buginese often complain about electronic products that come with a warranty. The complaints are lodged because the electronic products do not work and are easily damaged. Other ethnicities rarely complain about electronic products because the seller is too far away, consumers are too lazy to deal with the sellers, they prefer not to purchase anything else from the store, or they have a warranty card. The results also show that almost all ethnicities have high complaint behavior toward banking services. Problems with banking services are related to credit cards, reduced balances, and teller services. According to the Indonesian Consumers Foundation data (2019), financial services dominate consumer complaints, including banking services, with 46.9%.

The Buginese complain more than the other ethnicities, and express themselves explicitly. These people have complex characters and are steadfast in their stance, even being willing to commit violence (Latief, 2016). Furthermore, the Buginese have adopted a life philosophy called getteng, which means brave, confident, and quick to express what is right and wrong (Rahmi et al., 2017). This life philosophy is the most basic attitude possessed by the Buginese people. The behavior of people living in certain areas could differ from that of others in other environments, including post-purchase behavior. These results support Blodgett et al. (2015), in that culture is the driving force for the differences in complaints. According to Liu and McClure (2001), culture influences making complaints.

The multiple linear regression results show that only being a member of the baby boomer generation significantly affects complaint behavior. Each generation's complaint behavior shows the same results on every item. For instance, they rarely make complaints against cellular telephone service providers. Generational differences could affect the consumers' position in making complaints, or responding to service dissatisfaction (Harrington et al., 2012). In this study, being a member of generations X, Y, or Z did not influence their complaints behavior. This is because the distribution of complaint behavior between generations is equal, as seen by the complaints about cellular telephone service providers. The respondents stated they rarely take action due to a slight nominal loss, or do not know where to complain, and fear not being responded to adequately.

Complaint behavior by generation is classified in the low category. This is because each generation tends to passively complain when experiencing dissatisfaction. Consumers in Indonesia are highly tolerant and rarely complain when facing problems (Ministry of Trade RI, 2022). The findings show that generations X and Y have almost the same complaint index, but complain more often than the other generations. According to Williams and Page (2011), Generation X consumers are more established, make more purchases, and are more likely to complain because of dissatisfaction. This generation is also good at decision-making when dealing with a problem (Kolnhofer-Derecskei et al., 2017). In contrast, Generation Y actively uses social networks and tend to stay with a service provider after experiencing satisfactory recovery but are more inclined to complain (Soares et al., 2017). Yang (2012) stated that the younger generation complains more often when dissatisfied with a service. Baby boomers rarely complain because they are more receptive to perceived dissatisfaction post-purchase (Sharma et al., 2012). Additionally, younger consumers are more likely to complain than middle-aged ones (Tronvoll, 2007).

Conclussion

This study found that complaints based on a person's ethnicity and generation are in a low category. The findings mean that consumers in Indonesia rarely complain when disappointed with sellers or service providers. The Buginese and Generation Y consumers complain more than the other groups of consumers. Furthermore, this study found significant differences in complaint behavior based on ethnicity among the Javanese, Sundanese, Batak, and Malay ethnic groups. The baby boomer generation is significantly different from generations X and Y. Belonging to the Sundanese, Buginese, Batak, Malay, and other ethnic groups significantly affects complaint behavior, while the baby boomer generation shows no effect.

The results show that complaint behavior is low, necessitating efforts to increase consumer awareness through education regarding the right to compensation or replacement. Consumers should not hesitate to complain, meaning the government should socialize consumer education from the family level. Parents must play an active role in educating their children and providing socialization. They should consider details before buying a product or service, and complain when harmed by the seller. Furthermore, future studies could add items to measure complaint behavior with private and third-party responses. The studies could add other variables related to complaint behavior, such as personality, attitudes, self-concept, motivation, and experience.

Implications

This study found that complaint behavior in each ethnicity and generation is in the low category, because few respondents file complaints when dissatisfied with the sellers of goods or services. Therefore, the government and the consumer protection agencies need to play a role in increasing consumers' awareness of their rights and obligations when using goods or services. The government's guidance and supervision must be improved, as stated in Consumer Protection Law Number 8 of 1999. Moreover, the government should protect the rights and obligations of consumers and business actors. The results show that being a member of the Javanese, Sundanese, Batak, or Buginese ethnic groups significantly affects the complaint behavior. The Javanese and Sundanese are on the most developed island in Indonesia, and have adequate facilities to obtain consumer education, such as via social media.

The strategy for developing and disseminating consumer education could be adapted to the conditions of each region. The government and local NGOs must provide regular education programs, and a consumer complaint information system that is integrated with the supervising ministries or institutions in each trade sector. Trade supervision focuses on the Ministry of Trade and is a joint responsibility of all ministries. This is achieved by consumer protection through the establishment of institutions according to their duties and functions. Consumer empowerment could be enhanced by laws and regulations and the implementation of supervisory functions. This necessitates education through fostering smart or empowered consumers. Additionally, an integrated complaint information system would help the Ministry of Trade distribute complaints to the ministries and agencies in charge.

It is necessary to increase the public's understanding of their rights as consumers to report losses on the purchase or consumption transactions they make. The public should be involved in monitoring the circulation of goods and services by introducing consumers to dispute-resolution institutions. These include the BPSK and the Non-Governmental Consumer Protection Agency (LPKSM), including the Ministry of Trade as the leading sector for consumer protection.

Limitation

This study was limited to grouping the generations, because the available data were only based on age, not the birth year. However, there are only a few scientific references to the cultural values of each ethnic group and comparative studies between generations. This study only focuses on three generations, without including the Alpha generation. Furthermore, some interviewers could have bypassed the entire process when conducting the fieldwork, due to the complexity of the Kish grid. This procedure increases the time required for interviews, because the selected respondents may be unavailable. Using a Kish grid could also lead to resistance from the interviewees, as those initially selected may feel neglected and fail to provide the assistance needed. Moreover, Indonesia, as a third-world country, has numerous households.

References

Abadi, T. (2020). *Pengaduan konsumen dan kinerja OJK*. Article. https://ylki.or.id/2020/01/pengaduan-konsumen-dan-kinerja-ojk/

Anonymous. (2020). *Mengenal Sejarah Suku Bugis (Knowing the history of the Bugis ethnic group)*. https://jurnalmetropol.com/2020/02/25/mengenal-sejarah-suku-bugis/

Arora, S. D., & Chakraborty, A. (2021). Intellectual structure of consumer complaining behavior (CCB) research: A bibliometric analysis. *Journal of Business Research*, 122, 60–74. https://doi.org/10.1016/j.jbusres.2020.08.043

Ashraf, T., Sajjad, W., Rizwan, M., Ahmed, D., & Nazeer, H. (2013). Determinants of Consumer Complaining Behavior: A study of Pakistan. *International Journal of Learning and Development*, 3(6), 121. https://doi.org/10.5296/ijld.v3i6.6209

Blodgett, J. G., Bakir, A., Saklani, A., & Bachheti, M. (2015). Customer Complaint Behavior: an Examination of Cultural Vs. Situational Factors. *Journal of Consumer Satisfaction/Dissatisfaction & Complaining Behavior*, 28(July 2017), 61–74.

BPKN. (2022). *National Consumer Protection Agency complaint data in 2022*. Jakarta: National Consumer Protection Agency.

Briones Alonso, E., Cockx, L., & Swinnen, J. (2018). Culture and food security. *Global Food Security*, 17, 113–127. https://doi.org/10.1016/j.gfs.2018.02.002

CCA. (2020). *China Consumers Association*. http://www.cca.org.cn/jmxf/detail/29533.html

Childs, R. D., Robinson, P., Mcgovern, T. M., & Gingrich, G. (2015). The millennial generation. *Transforming American Governance: Rebooting the Public Square*, 307–321. https://doi.org/10.1177/2158244017697158

Cipriana, M. A., Filimon, S., & Ionela, G. P. (2010). Consumers ' complaining behavior: An exploratory research. *Proceedings of the 5th WSEAS International Conference on Economy and Management Transformation*, Volume I, 400–405.

Darmoko. (2017). Budaya Jawa Dalam Diaspora: Tinjauan Pada Masyarakat Jawa Di Suriname. *Jurnal IKADBUDI*, 5(12), 104–116. https://doi.org/10.21831/ikadbudi.v5i12.12307

Durand, F., & Valla, D. (2008). *Assessment of prognosis of cirrhosis*. Seminars in Liver Disease. https://doi.org/10.1055/s-2008-1040325

Ekinci, Y., Calderon, J., & Siala, H. (2016). Do personality traits predict "complaining" consumers? *International Journal of Business Environment*, 8(1), 32. https://doi.org/10.1504/ijbe.2016.074793

Ghoni, A., & Bodroastuti, T. (2012). The influence of factor of cultural, social, personality and psychology on customer behavior. *Sekolah Tinggi Ilmu Ekonomi Widya Manggala*, 3, 1–23.

Grougiou, V., & Pettigrew, S. (2009). Seniors' attitudes to voicing complaints: A qualitative study. *Journal of Marketing Management*, 25(9–10), 987–1001. https://doi.org/10.1362/026725709X479336

Harrington, R. J., Ottenbacher, M. C., Staggs, A., & Powell, F. A. (2012). Generation Y Consumers: Key Restaurant Attributes Affecting Positive and Negative Experiences. *Journal of Hospitality and Tourism Research*, 36(4), 431–449. https://doi.org/10.1177/1096348011400744

Heri. (2016). *13 Karakter, Sifat dan Kebiasaan Orang Jawa (WikiDjawa)*. Salamadian.Com. https://salamadian.com/mengenal-karakter-sifat-dan-kebiasaan-orang-jawa/

Heung, V. C. S., & Lam, T. (2012). Customer complaint behaviour towards hotel restaurant services. *International Journal of Contemporary Hospitality Management*, 15(5), 283–289. https://doi.org/10.1108/09596110310482209

Hidayah, Z. (2015). *Ensiklopedia suku bangsa di Indonesia (Encyclopedia of ethnicities in Indonesia)*. Jakarta: Yayasan Pustaka Obor Indonesia.

Jokohael, N. F., Sri Suprapti, N. W., & Kerti Yasa, N. N. (2017). The relationship of demographic variables and cultural dimensions with complaint behaviour of starred hotel tourists in Bali. *E-Jurnal Ekonomi Dan Bisnis Universitas Udayana*, 8, 2955–2982. https://doi.org/10.24843/eeb.2017.v06.i08.p02

Khan, A. S., Ahmed, F., Yousuf, H., Hassan, S., & Zia, S. A. (2014). Online shopping behavior in Pakistan. *International Conference on Marketing*, 1–42. http://iba.edu.pk/testibaicm2014/parallel_sessions/ConsumerBehaviorCulture/OnlineShoppingBehaviour.pdf

Kish, L. (1949). A Procedure for Objective Respondent Selection within the Household. *Journal of the American Statistical Association*, 44(247), 380–387. https://doi.org/10.1080/01621459.1949.10483314

Kohnen, P. M. (2002). When Generations Collide: Who they are. Why they Clash. How to Solve the Generational Puzzle at Work. In *Quality Management Journal (Vol. 9, Issue 4)*. Harper Collins. https://doi.org/10.1080/10686967.2002.11919040

Kolnhofer-Derecskei, A., Reicher, R. Z., & Szeghegyi, A. (2017). The X and Y generations' characteristics comparison. *Acta Polytechnica Hungarica*, 14(8), 107–125. https://doi.org/10.12700/APH.14.8.2017.8.6

Krüger, L., & Mostert, P. G. (2019). The influence of relationship intention on cell phone users' attitudes towards complaining and complaint behaviour. *Southern African Business Review*, 18(2), 35–64. https://doi.org/10.25159/1998-8125/5677

Kumar, A., & Kaur, A. (2022). Relationship between consumers attitude toward complaining and demographic characteristics: a study of indian consumers. *Journal of Positive School Psychology*, 6(4), 10813–10823. https://www.journalppw.com/index.php/jpsp/article/download/6586/4322/7608

Lamble, L. (2018). *With 250 babies born each minute, how many people can the Earth sustain?* The Guardian. https://www.theguardian.com/global-development/2018/apr/23/population-how-many-people-can-the-earth-sustain-lucy-lamble

Latief, M. C. (2016). Gender-differentiated communication in the Bugis community in Kemujan Village, Karimunjawa Islands. *Jurnal Ilmiah Universitas Semarang*, VIII, 1–7. http://dx.doi.org/10.26623/themessenger.v8i2.344

Lestari, R., & Molina, M. (2019). The influence of attitude, perceived value and perceived chances of success of primary students on the intention to complain. *Jurnal Sosial Dan Humaniora*, 4(1), 959–970. http://dx.doi.org/10.47313/pjsh.v4i1.594

Liu, R. R., & McClure, P. (2001). Recognizing cross-cultural differences in consumer complaint behavior and intentions: An empirical examination. *Journal of Consumer Marketing*, 18(1), 54–74. https://doi.org/10.1108/07363760110365813

Mafini, C., Dhurup, M., & Mandhlazi, L. (2014). Shopper typologies amongst a Generation Y consumer cohort and variations in terms of age in the fashion apparel market Research reveals that at various levels of marketing theory. *Acta Commercii* 14(1), 14(1), 1–11. https://doi.org/10.4102/ac.v14i1.209

Mahmud Mahayudin, N. H., Haron, S. A., & Yin-Fah, B. C. (2010). Unpleasant market experience and consumer complaint behavior. *Asian Social Science*, 6(5), 63–69. https://doi.org/10.5539/ass.v6n5p63

Mardhiyah, D., & Dharmmesta, B. S. (2013). Antecedents to intention to engage in the online negative word-of-mouth communication. *Gadjah Mada International Journal of Business*, 15(2), 113-132. DOI: 10.22146/gamaijb.5698

McGoldrick, M., Preto, N. G., Hines, P. M., & Lee, E. (2014). *Ethnicity and family therapy. In Handbook Of Family Therapy*. Guilford. https://doi.org/10.4324/9781315803661

Ministry of Trade RI. (2022). *Consumer Empowerment Survey in 2022*. Jakarta: Ministry of Trade RI.

Mostafa, S. A., & Ahmad, I. A. (2018). Recent developments in systematic sampling: A review. *Journal of Statistical Theory and Practice*, 12(2), 290–310. https://doi.org/10.1080/15598608.2017.1353456

Mousavi, M., & Esfidani, M. R. (2013). A Comprehensive Model of Customers' Complaint Behavior. *International Journal of Academic Research in Business and Social Scienc-*

es, 3(5), 549–569.

Ndona, Y. (2018). Kemanusiaan dalam falsafah hidup masyarakat Batak Toba (Humanity in the philosophy of life of the Toba Batak people). *Jurnal Citizenship: Media Publikasi Pendidikan Pancasila Dan Kewarganegaraan*, 1(1), 15–22. http://journal.uad.ac.id/index.php/Citizenship/article/view/10441

Ngai, E. W. T., Heung, V. C. S., Wong, Y. H., & Chan, F. K. Y. (2007). Consumer complaint behaviour of Asians and non-Asians about hotel services: An empirical analysis. *European Journal of Marketing*, 41(11–12), 1375–1391. https://doi.org/10.1108/03090560710821224

Nirmala, R. P., & Dewi, I. J. (2011). The effects of shopping orientations, consumer innovativeness, purchase experience, and gender on intention to shop for fashion products online. *Gadjah Mada International Journal of Business*, 13(1). DOI: 10.22146/gamaijb.5495

Nor Othman, M., Zhao, W., Nor Othman Wenjie, M., & Nor, M. (2010). *The Influence of Knowledge of Consumer Protection and Perception of Marketing Factors on Consumer Complaint Behaviour: A Study of Malaysian Consumers. September.*

Octaviani, C., & Kartasasmita, S. (2017). The influence of self-concept on the consumptive behaviour of purchasing cosmetic products in early adult women. *Jurnal Muara Ilmu Sosial, Humaniora, Dan Seni*, 1(2), 126–133. https://doi.org/10.24912/jmishumsen.v1i2.948

Page, R. A., & Williams, K. C. (2011). Marketing to the Generations. *Journal of Behavioral Studies in Business*, 3(1), 1–17. https://doi.org/http://dx.doi.org/10.1080/0965254X.2017.1291173

Park, S. G., Kim, K., & O'Neill, M. (2014). Complaint behavior intentions and expectation of service recovery in individualistic and collectivistic cultures. *International Journal of Culture, Tourism, and Hospitality Research*, 8(3), 255–271. https://doi.org/10.1108/IJCTHR-12-2013-0084

Phau, I., & Baird, M. (2008). Complainers versus non-complainers retaliatory responses towards service dissatisfactions. *Marketing Intelligence and Planning*, 26(6), 587–604. https://doi.org/10.1108/02634500810902848

Rahmi, S., Mappiare AT, A., & Muslihati. (2017). Ideal character of counsellor in Pappaseng text culture. *Jurnal Pendidikan*, 2(2), 228–237. http://dx.doi.org/10.17977/jp.v2i2.8535

Ramadlani, A. K., & Wibisono, M. (2017). Visual literacy and character education for alpha generation. *International Seminar on Language, Education and Culture*, October, 1–7.

Rizi, Y. A., Dharma, F., Amelia, Y., & Prasetyo, T. J. (2023). Factors Affecting Trust and

Interest in Transactions by Indonesian MSME Sellers in e-Commerce. *Journal of Indonesian Economy and Business*, 38(1), 19-42. https://doi.org/10.22146/jieb.v38i1.4394

Sharma, P., Chen, I. S. N., & Luk, S. T. K. (2012). Gender and age as moderators in the service evaluation process. *Journal of Services Marketing*, 26(2), 102–114. https://doi.org/10.1108/08876041211215266

Simanjuntak, M., & Hamimi, U. (2019). Penanganan Komplain dan Komunikasi Word-Of-Mouth (WOM). *Jurnal Ilmu Keluarga Dan Konsumen*, 12(1), 75–86. https://doi.org/10.24156/jikk.2019.12.1.75

Simanjuntak, M. (2019). Generation Y's Complaint Behavior toward Online Shopping. *Independent Journal of Management & Production*, 10(1), 101. https://doi.org/10.14807/ijmp.v10i1.839

Simandjuntak, B.A. (2002). *Konflik Status & Kekuasaan Orang Batak Toba*. Tamita Utama. https://simpus.mkri.id/opac/detail-opac?id=7412

Smola, K. W., & Sutton, C. D. (2002). Generational differences: Revisiting generational work values for the new millennium. *Journal of Organizational Behavior*, 23(SPEC. ISS.), 363–382. https://doi.org/10.1002/job.147

Soares, R. R., Florida, C., Proença, J. F., & Kandampully, J. (2017). Why are Generation Y consumers the most likely to complain and repurchase ? *Journal of Service Management*. https://doi.org/10.1108/JOSM-08-2015-0256

Susanti, E., Tarbiyah, F., Uin, K., Syarif, S., & Riau, K. (2015). The culture of shame reflects on malay women. *Sosial Budaya*, 11(2), 226–236. https://doi.org/10.24014/SB.V11I2.836

Suyemoto, K. L., Curley, M., & Mukkamala, S. (2020). What Do We Mean by "Ethnicity" and "Race"? A Consensual Qualitative Research Investigation of Colloquial Understandings. *Genealogy*, 4(3), 81. https://doi.org/10.3390/genealogy4030081

Syarif, E., Sumarmi, S., & Astina, I. K. (2016). Integrasi Nilai Budaya Etnis Bugis Makassar Dalam Proses Pembelajaran Sebagai Salah Satu Strategi Menghadapi Era Masyarakat Ekonomi Asean (MEA). *Jurnal Teori Dan Praksis Pembelajaran IPS*, 1(1), 13–21. https://doi.org/10.17977/um022v1i12016p013

Ting, H., Wong, W. P.-M., & Run, E. C. de. (2016). Complaint Behaviour between Generations and Its Transmissions: An Exploratory Study in Malaysia. *International Journal of Business and Management*, 11(11), 279. https://doi.org/10.5539/ijbm.v11n11p279

Tronvoll, B. (2007). Complainer characteristics when exit is closed. *International Journal of Service Industry Management*, 18(1), 25–51. https://doi.org/10.1108/09564230710732885

Wandani, D., & Simanjuntak, M. (2019). Personality, Motivation, and Complaints Behavior based on Ethnicity. *Jurnal Ilmu Keluarga Dan Konsumen*, 12(3), 236–247. https://doi.org/10.24156/jikk.2019.12.3.236

Yang, H. (2012). Young American Consumers' Prior Negative Experience of Online Disclosure, Online Privacy Concerns, and Privacy Protection Behavioral Intent. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 25(Quinn), 179–202. https://jcsdcb.com/index.php/JCSDCB/article/view/123/0

Zain, O. M. (2011). Inquisitions into the complain and the non-complain customers: the Malaysian customers? insight. *International Journal of Business and Social Science*, 2(15), 88–98. http://irep.iium.edu.my/3118/

Zeithaml, V. A., Bitner, M. J., Gremler, D., Bitner, M. J., & Gremler, D. (2004). Services Marketing: Integrating Customer Focus Across the Firm. *Managing Service Quality: An International Journal*, 14(5), 436–437. https://doi.org/10.1108/msq.2004.14.5.436.1

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The Role of Trust on the Continuance Usage Intention of Indonesian Mobile Payment Application

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Abstract: Mobile payment is a fascinating innovation, developed by the banking and fintech industries. It is growing very fast, shadowing the popularity of smartphones in Indonesia. However, the continuance usage intention of mobile payment still needs to be determined. Based on prior studies, this study investigates trust as an important factor in promoting the m-payment continuance usage intention. Furthermore, drawing upon the innovation diffusion theory, the study uses the model by Shao et al. (2019) to investigate the antecedents of trust: mobility, customization, security, and reputation, and analyzes the moderating effect of gender on the relationship between trust and its antecedents. It also examines the impact of trust on the perceived risk and continuance intention; and the perceived risk on the continuance intention. The postulated links between the variables were tested using a survey design. With 225 respondents who are e-wallet users in Indonesia, the study finds a positive effect of reputation, security, and customization on trust. Trust positively influences continuance intention, while the link between trust and perceived risk is negative. Compared to the previous study by Shao et al. (2019), the current study finds insignificant relationships between mobility and trust, as well as between the perceived risk and continuance intention. Furthermore, there was no moderating effect of gender on the relationship between trust and its antecedents.

Keywords: mobile payment, continuance intention, trust, gender, perceived risk
JEL Classification: M31, O33

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Introduction

The high number of smartphone users in Indonesia, which reached 191.6 million users in 2020 (Nurhayati-Wolff, 2020), has supported the development and popularity of mobile payment (m-payment) applications in Indonesia. In addition, the adoption of mobile technology, an upgraded operating system, an improved internet network, and user interface refinements have also played a role in the development of m-payment (MDI Ventures & Mandiri Sekuritas, 2017; Ramadan & Aita, 2018). Among the types of m-payment systems in Indonesia, e-wallets from fintech companies, such as GoPay, Ovo, Dana, and LinkAja, are more popular and widely used by consumers (IPrice & App Annie, 2020). During the spread of COVID-19, m-payment transactions became increasingly popular because they supported social distancing and avoided physical contact. Ming & Jais (2022) also stated that m-payment has the potential to become a regular payment method, because of its usefulness and compliance with users' lifestyles and mobility. As a result, the value of m-payment transactions in Indonesia reached US$56.995 million in 2021 (Statista, 2020).

Despite the increasing number of transactions, many customers prefer cash or debit/credit cards as payment options. According to Hootsuite & We Are Social (2020), e-commerce payments are still dominated by credit cards (36 percent) and bank transfers (24 percent), while e-wallet transactions only occupy 14 percent. The Jakpat Survey Report (2018) data supports this finding, showing that 42 percent of GoPay users chose cash transactions, and 21 percent chose debit/credit cards. Accordingly, the report also indicates that the usage of m-payment is only limited to particular occasions. This data shows that the stickiness of m-payment is still low in Indonesia, and it has yet to become consumers' first payment method. Therefore, this study adopts the continuance intention model of Shao et al. (2019) to measure m-payment users' stickiness.

Previous studies identified trust as the most significant factor influencing users' intentions to continue using mobile payments (Cao et al., 2018; Shao et al., 2019). However, the Jakpat Survey Report (2018) found that six percent of Indonesian users still need to fully trust m-payment applications, because the systems are prone to illegal access. In addition, 20 percent of the respondents stated that they experienced many problems, such as complicated top-up processes, internet network vulnerabilities, and the fear of fraud. Supporting the survey, the study of the service quality of Indonesian e-wallets by Budiarani, et al. (2022) stated that companies still need to develop the users' trust. These findings raise the question of what factors affect m-payment users' trust. On top of that, Cao et al. (2018) found that trust does not directly affect continuance intention. Therefore, it stimulates further study on trust and continuance intention, because there are still conflicting results related to trust as the factor affecting continuance intention.

Trust is the main issue in this study, because trust is an important factor that can reduce the perceived risk and increase m-payment continuance usage intention. When trust is built, it provides a sense of security for customers and develops further usage (Susilo, et al., 2022). The antecedents of trust were developed from the innovation diffusion theory (IDT) by Rogers (2003) in the form of mobility and customization as the relative advantages of using m-payment. Shao et al. (2019) added security and reputation, adapted from the trust-building model by McKnight et al. (2002). In addition, Shao et al. (2019) included the perceived risk as a factor, with a reverse effect on continuance intention. Because mobile technology relies on a wireless connection, m-payment applications are prone to errors and hence, have greater uncertainty. Consequently, the risks of m-payment usage related to privacy and security can hinder the m-payment continuance usage intention.

Although men and women differ in their decision-making and tech-related behavior, previous studies found that the effect of gender was still inconsistent (Chawla & Joshi, 2020; Oliveira et al., 2014; Shao et al., 2019). Shao et al. (2019) found that the effects of the antecedents of trust are different between male and female users. According to Ma (2021) and Statista (2021), males dominate m-payment usage in China, revealing a bigger gender gap than in Indonesia. Statista (2021) also shows that 32 percent of m-payment users are aged 25 to 34. Previous studies found that this demographic is more likely to use technology frequently (Lisana, 2021; Cao et al., 2017; Amoroso & Lim, 2017). It should be noted that gender was used as a moderator in this study. The younger members of this study's sample, who are familiar with and frequently use technology, can be analyzed to see if this is a factor affecting the results of the hypothesis.

This study aims to analyze the antecedents of trust in the case of m-payment applications, comprising mobility, customization, security, and reputation. This study also examines the moderating effect of gender on the relationship between trust and its antecedents, trust and the perceived risk, trust and continuance intention, and the perceived risk and continuance intention. This study replicates the previous research by Shao et al. (2019), but is applied in a different research setting. Shao et al. (2019) conducted a study in China, using popular e-wallets such as AliPay and WeChat Pay, as the research objects. As Shao et al. (2019) suggested, this study uses the research model in a different country, to test its generalizability. The study expects to adopt a similar research model confirming a different result in the Indonesian setting. The study clarifies what factors would be more critical in building trust and the role of gender as a moderating variable. Then, the study also examines the impact of trust on the continuance intention and perceived risk. Therefore, the study contributes to the literature on m-payments' adoption by exposing a unique perspective from Indonesia.

The study will later compare the findings in the current study and the previous study by Shao et al. (2019). The comparison is based on the study by MDI Ventures & Mandiri Sekuritas (2017), which stated that China and Indonesia are relatively similar regarding the high level of smartphone penetration and the m-payment market. However, the usage levels and growth are different. Customers in China have been using m-payment for various payment purposes. Meanwhile, m-payment usage in Indonesia is less advanced than in China, as it is mainly used for e-marketplaces and ride-hailing services. In addition, China and Indonesia have a different gender gap, which is related to the gender that dominates m-payment usage.

Furthermore, this study contributes to the practical gap in the m-payment industry in Indonesia. As mobile payment continues to develop rapidly in Indonesia, companies need to understand the users in the market. The finding related to continuance intention would be an important insight for m-payment providers to promote m-payment within the Indonesian market, and retain users strategically. For a growing business, the m-payment business needs to retain users to grow and achieve long-term success (Cao et al., 2018). Moreover, m-payment is expected to be a widespread payment choice (Budiarani, et al., 2022). Consequently, a company must consider trust-building factors when designing m-payment services. This can help them earn the users' trust and improve continuance usage intention.

The structure of this paper is as follows. The following section presents the literature review on m-payment, continuance intention, the innovation diffusion theory, and the trust-building theory, followed by the theoretical framework and hypothesis development section. After that, this study describes the methodology and measurements used in this paper. It is then followed by the data analysis, consisting of validity/reliability tests, hypotheses tests, and a comparison of the research's findings. In analyzing the data, this study uses partial least squares structural equation modeling (PLS-SEM) by SmartPLS 3.3. Additionally, the moderating effect is tested using a multigroup analysis (MGA) method. In the next section, this study proposes a discussion related to the results. Lastly, this paper will have conclusions, managerial implications, and limitations.

Literature Review

Mobile Payment (M-Payment)

Mobile payment or m-payment is the payment made through a smartphone, or other mobile device, for bills, goods, and services utilizing wireless technology (Dahlberg et al., 2015). The m-payment application enables users to immediately access and enjoy basic things from anywhere, at any time (Cao et al., 2018), such as payments for top-ups, billing, food delivery, bank transfers, and peer-to-peer transfers. Lu et al. (2011) stated that m-payment solves the problems of traditional payment's mundane and limited geographical reach. It represents a conventional technological payment innovation that utilizes a mobile device to initiate, authorize, and confirm transactions (Au & Kauffman, 2008; Kim, Mirusmonov, & Lee, 2010). Nevertheless, m-payment differs from traditional online transactions made on a desktop, which are not flexible.

Continuance Intention

The continuance intention is the level of consumers' intention to use m-payment applications after the initial usage (Amoroso & Lim, 2017). The continuance intention is part of the post-adoption processes, which is very important for the success of m-payment (Zhou, 2013). It is related to consumer satisfaction after using them, and determines whether they will use them again or not. Bhattacherjee (2001) proposed a continuance intention model that explores the consumer's intention to continue using technology, and predicts the actual use through the confirmation of the expectations and evaluation after using m-payment. When the performance of m-payment and the users' expectations are met, it can lead to a positive evaluation and promote its continuance intention.

Continuance Intention

The innovation diffusion theory (IDT) examines the decision-making process relating to how consumers adopt technological innovations from time to time (Rogers, 2003). IDT can explain that consumers' willingness to continue using the technology depends on how they perceive the attributes given by the technological innovation itself. The increasing usage, over time, would also increase the risk of mobile payments. Therefore, IDT has been used to analyze the trust-building factors in information technology research. There are five attributes of innovation in IDT: relative advantage, compatibility, complexity, trialability, and observability. Shao et al. (2019) used relative advantage for the research model, operationalized as mobility and customization, to measure consumers' cognitive evaluations of m-payment. Consumers will experience the relative advantage of m-payment when the new service offers more value than the existing one (Taylor & Todd, 1995; Rogers, 1995).

The Trust Building Theory

The trust-building theory by McKnight et al. (2002) analyzes the behavioral intentions of online consumers. According to that theory, consumers' trust consists of "trusting intention" and "trusting belief." Trusting intention is the consumers' intention to depend on the online vendor, whereas trusting belief is defined as trust in the vendor's capability, integrity, and benevolence. The theory clarifies that site quality, reputation, and structural assurance/security strongly affect the consumers' trust. Therefore, Shao et al. (2019) considered reputation and security to be predictors of trust.

Theoretical Framework and Hypothesis Development

The Effect of Mobility on Trust

Mobility is the relative advantage by which consumers can access m-payment to make transactions from any location at any time (Shao et al., 2019). It is also mentioned as ubiquity, the most critical factor of mobile technology, because it is accessible to users from anywhere (Kim, Mirusmonov, & Lee, 2010; Zhou, 2013). Mobile technology fits modern society's lifestyle, which favors fast and high mobility (Kalinić et al., 2020; Leong et al., 2021). Mobility allows flexibility and convenience for users to do transactions in real time with a gadget everywhere (Chong et al., 2012; Kim, Mirusmonov, & Lee, 2010). When consumers understand that the m-payment application is a unique payment tool with a broad and fast payment range, they will trust it more and prefer to use it rather than other payment methods (Chong et al., 2012). Although Chong et al. (2012) and Leong et al. (2021) found the insignificant effect of mobility, Shao et al. (2019) and Shao and Zhang (2018) found that mobility positively affects the development of consumers' trust. Therefore, this study formulated the following hypothesis.

H1: Mobility has a positive effect on trust.

The Effect of Mobility on Trust

Customization reflects the ability of m-payment applications to personalize the system, in terms of its functionality, payment methods, and security settings to fit specific consumers' needs (Huang et al., 2014). Customization allows users to have more flexibility and control; these features will increase their trust (Suh & Han, 2003). It also gives consumers a sense of ownership of their transactions, as they can design their processes and seek ones that fit their preferences (Huang et al., 2014). For example, in the case of Indonesian mobile payments, GoPay enables its users to choose their favorite features; Dana allows users to decide whether they want to pay from their e-wallet balance, point, or bank account. Consumers expect this flexibility to ease m-payment usage (Iacurci, 2020). Studies by Huang et al. (2014), Shao and Zhang (2018), and Shao et al. (2019) found that customization and flexibility have a positive effect on trust. In addition, Budiarani et al. (2022) also found that the sense of control over the use of personal information and online transaction are satisfactory factors for users when using m-payment. Hence, the hypothesis is formulated as follows.

H2: Customization has a positive effect on trust.

The Effect of Security on Trust

In the m-payment context, security is defined as consumers' perceptions of the system's security and reliability, such as transaction guarantees, assurance, and regulations (Chandra et al., 2010; McKnight et al., 2002; Zhou, 2011). Security is essential to build users' trust in an online environment. Accordingly, the study by McKnight et al. (2002) found that a vendor's reputation and security are two factors that play essential roles in consumer trust-building.

The m-payment transaction highly depends on the reliability of the m-payment system and the technology itself. Consequently, users are worried about possible errors or transaction delays caused by a network failure during transactions (Dahlberg, Mallat, & Öörni, 2003). Therefore, the security of m-payment must be effectively arranged so that consumers will feel safe about their transactions, and more confident in using m-payment applications (Huang et al., 2014; Shao et al., 2019). Conversely, consumer confidence will decrease if they feel insecure (Linck et al., 2006). The study by Zhou (2011) and Kim et al. (2009) stated that security, as a structural assurance, significantly affects consumers' trust-building. Hence, the hypothesis is formulated as follows.

H3: Security has a positive effect on trust.

The Effect of Reputation on Trust

Prior studies show that consumers are very concerned about a company's reputation when they purchase a product or service. Accordingly, the trust-building model by McKnight et al. (2002) revealed that reputation is one of the main predictors of trust. Reputation reflects the consumers' perceptions and belief that the m-payment service has a good impression, related to its ability to effectively provide credible and reliable services (McKnight, Cummings, & Chervany, 1998; Kim et al., 2009). Given the high risk of technological innovation, consumers base their product evaluations on their social circle before using it (Chong et al., 2012; Li, 2004; Lu et al., 2011), and tend to choose a product that the people around them use widely. Since trust is hard to measure (Dahlberg, Mallat, & Öörni, 2003), consumers pay more attention to reputation. Accordingly, Pavlou & Gefen (2004) found that reputation is more effective than structural assurance in enhancing trust. Supporting this argument, Lin et al. (2017) and Oliveira et al. (2014) stated that reputation is an antecedent that affects consumers' trust. Therefore, the study formulated the following hypothesis as follows.

H4: Reputation has a positive effect on trust.

The Moderating Effect of Gender

In the social role theory, men and women tend to behave differently because they have different social roles (Lin et al., 2017). It assumes that their role is the cause of how they process their experiences. Furthermore, Kim (2010) stated that men and women differ in various decision-making situations, including their attitude and behavior orientations, when encountering technological innovations. Nevertheless, studies investigating gender as the moderating factor have found conflicting results. Chong et al. (2012) and Xin et al. (2015) found that gender is not a good predictor of behavioral intention, or trust. On the other hand, Shao et al. (2019) and Kalinić et al. (2020) found a significant effect of gender on consumer trust-building, and the study by Ming & Jais (2022) showed that gender affects e-wallet usage. Based on the conflicting findings, the hypothesis is stated as follows.

H5: The effect of antecedents on trust is moderated by gender.

Men are more pragmatic and task-oriented than women (Venkatesh et al., 2012). Furthermore, men are more inclined to use unique methods to achieve their objectives, and adopt a more positive attitude toward utility (Zhou et al., 2014). The mobility of m-payment, which allows customers to execute their transactions from any location, at any time, shows that m-payment has a higher utility and usefulness than traditional payment methods. Another study pointed out that men focus more on technology-oriented factors than women (Lin et al., 2017). In other words, men depend on technological factors to build their trust. Prior studies show that the effect of mobility is higher on men than women (Liébana-Cabanillas, Muñoz-Leiva, & Sànchez-Fernández, 2018; Shao et al., 2019). Therefore, the hypothesis is formulated as follows.

H5a: The influence of mobility on trust is stronger for men than women.

On the other hand, some studies revealed that women are more process-oriented than men, and focus on personalization (San Martin & Jimenez, 2011). Due to this, women have a relatively higher level of technology anxiety and lower technology-related literature than men (Venkatesh et al., 2000). As a result, they need more control over m-payment transactions through the customization of payment methods and security settings that make them feel secure (Huang et al., 2014). Accordingly, Shao et al. (2019) found that the effect of customization on trust would be higher in women than in men. Therefore, the hypothesis is formulated as follows.

H5b: The influence of customization on trust is stronger for women than men.

Furthermore, women have a relatively higher anxiety level when dealing with technology (Chawla & Joshi, 2020) and tend to be process-oriented (Shao et al., 2019). Therefore, women focus more on security and data privacy to avoid financial loss because of online transactions (Hoy and Milne, 2010). Consequently, structural assurance and system reliability are essential for women using m-payment. Accordingly, Shao et al. (2019) found that security has a stronger effect on female customers' trust than it has on their male counterparts. Therefore, the hypothesis is formulated as follows.

H5c: The link between security and trust is stronger for women than men.

A previous study found that men do selective processing when evaluating an online vendor. Their evaluation is primarily based on cues and symbols given by the vendor (Sanchez-Franco, 2006). Therefore, men will be more affected by m-payment's reputation, as a cue to represent the vendor's impression and image. That reputation is related to recommendations from their social circle as a strong predictor of their trust (Kalinić et al., 2020). Therefore, the hypothesis is formulated as follows.

H5d: The link between reputation and trust is stronger for men than women.

The Effect of Trust on Perceived Risk

Trust is defined as the consumers' belief that m-payment applications will handle their transactions according to their expectations (Kim et al., 2009; McKnight et al., 2002). Trust and the perceived risk are essential aspects of online transactions. Trust has been studied as the factor that can mitigate the perceived risk (Lu et al., 2011; Cao et al., 2018; Shao et al., 2019), and it is capable of making m-payment users feel secure in using the technology (Susilo, et al., 2022). M-payment applications rely on a mobile network and system, which can be perceived as vulnerable. Hence, the risk of using m-payment applications is higher than when using conventional ones. Consumers who trust m-payment applications will have a different perception of the risk. Therefore, the hypothesis is formulated as follows.

H6: Trust has a negative effect on the perceived risk.

The Effect of Trust on Continuance Intention

Previous studies by Shao et al. (2019) and Zhou (2013) found that trust positively affects continuance intention. However, Cao et al. (2018) confirmed the opposite finding. In an online context, trust is an essential factor for behavioral intention, since m-payment transactions carry more significant risks due to their network vulnerability. Trust becomes increasingly important in determining consumers' intentions to continue using m-payment (Köster et al., 2016; Liébana-Cabanillas et al., 2014; Lu et al., 2011; Shao & Zhang, 2018; Zhou, 2013), while the lack of trust is a major barrier to its adoption (Susilo, et al., 2022). Therefore, the hypothesis is formulated as follows.

H7: Trust has a positive effect on continuance intention.

The Effect of Perceived Risk on Continuance Intention

The perceived risk is the consumer's perception of the negative consequences and transaction uncertainty (Kim et al., 2008; Koufaris & Hampton-Sosa, 2004). In the m-payment environment, the perceived risk refers to the probability of losing funds and the leakage of personal information (McKnight et al., 2002), because users have to submit a photo and an identification card to register and access the m-payment application. In addition, an m-payment system still has a higher uncertainty and risk due to the internet network's vulnerability (Köster et al., 2016; Zhou, 2013). There will be a risk of transaction failure in areas with a low or unstable internet network. Therefore, it affects their intention to continue using m-payment. Shao et al. (2019) and Lin et al. (2017) discovered that the perceived risk negatively influences behavioral intentions to utilize m-payment. Therefore, the hypothesis is formulated as follows.

H8: The perceived risk has a negative effect on continuance intention.

Research Model

As shown in Figure 1, the study adopted a research model developed by Shao et al. (2019). The relative advantage label shows mobility and customization as the operationalized variables measuring m-payment's relative advantage, derived from the IDT. Reputation and security were added to the trust-building theory (McKnight et al., 2002). The model examined the relationship of trust and its antecedents, its effect on the perceived risk and continuance intention, and the perceived risk's effect on continuance intention. It also scrutinized gender as the moderating variable on the link between trust and its antecedents.

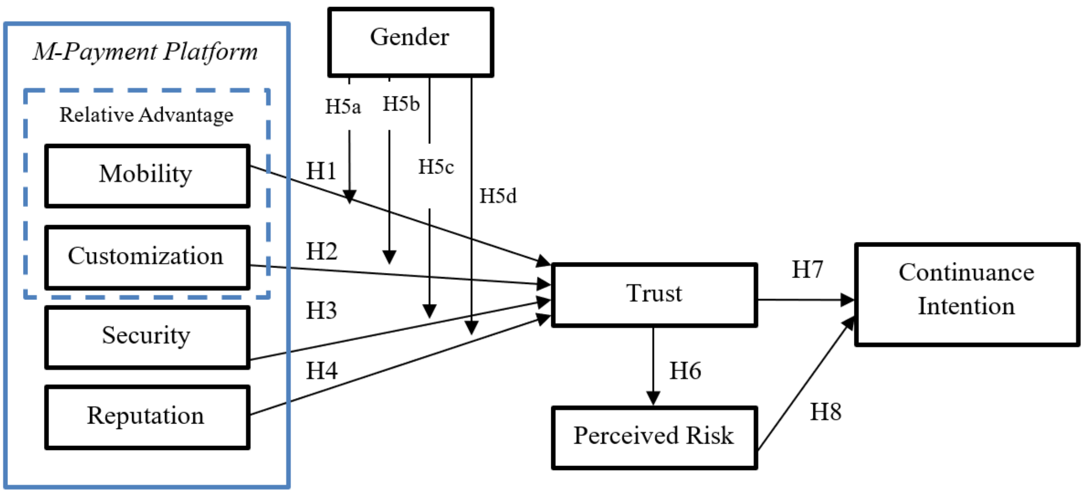

Figure 1. Research Model
Source: Zhen Shao, Lin Zhang, Xiaotong Li, and Yue Guo (2019)

Research Method

Sample and Data Collection

This study used a survey method to reach its target population, which was m-payment users in Indonesia. The sample was obtained by a purposive sampling method. The unit sample was any experienced user who used e-wallet-based m-payment applications in the last six months (such as GoPay, Ovo, Dana, and LinkAja). The data were gathered via an online questionnaire from March to April 2021. The study first conducted a pilot survey with 50 respondents. After confirming the items' validity and reliability, the questionnaire, consisting of 21 questions using a 5-point Likert scale, was distributed to several cities in Java, namely: Yogyakarta, Surakarta, Surabaya, Jakarta, Bandung, Semarang, Klaten, and Magelang, as well as various cities and islands outside Java, such as Bali, Lombok, Samarinda, and Kendari. The selection of the locations was based on the data of m-payment users from the Jakpat Survey Report (2019), which showed that the cities with the biggest user base were mainly in Java. There was only a small percentage of users in the other areas.

A study of the 238 responses yielded 225 valid responses from 62 male and 163 female respondents. The profile of the respondents, shown in Table 1, showed that 73.8 percent were between the ages of 23 to 27. This was similar to a report by Statista (2021) which found that most m-payment users fall within the age range of 25 to 34. Most of the respondents lived in Yogyakarta and Jakarta. The respondents have mainly used m-payment for 1 to 3 years, with the usage of more than 12 times in the last three months. The respondents primarily used m-payment for online shopping payments, food deliveries, top-ups, and transportation.

Table 1. Respondents Profile

Demographic Factors	Quantity	Percentage
Gender		
Men	62	27.5
Women	163	72.4
Age		
18 – 22	21	9.3
23 – 27	166	73.8
28 – 32	22	9.8
33 – 37	13	5.8
> 37 years old	3	1.3
Occupation		
University Student	67	29.8
Operational Employee	57	25.3

Managerial Employee	20	8.9
Professional	18	8.0
Entrepreneur	12	5.3
Housewife	13	5.8
Others	38	16.9
Education Background		
High School	26	11.6
Vocational School	13	5.8
Bachelor Degree	168	74.7
Master Degree	18	8.0
Monthly Expenses (exclude debt and investment)		
≤ IDR1,000,000	51	22.7
IDR1,000,001 – IDR 2,000,000	61	27.1
IDR2,000,001 – IDR 3,000,000	38	16.9
IDR3,000,001 – IDR 4,000,000	25	11.1
IDR4,000,001 – IDR 5,000,000	22	9.8
≥ IDR5,000,000	28	12.4
Usage Length		
< 1 year	18	8.0
1 – 3 years	111	49.3
> 3 years	96	42.7
Usage frequency in the last three months		
0 – 3 times	14	6.2
4 – 6 times	35	15.6
7 – 9 times	25	11.1
10 – 12 times	26	11.6
> 12 times	125	55.6
Last usage		
< 1 week ago	181	80.4
1-2 weeks ago	23	10.2
3-4 weeks ago	9	4.0
> 1 month ago	12	5.3
The m-payment application used by respondents		
GoPay	185	82.2
ShopeePay	176	78.2
Ovo	164	72.9
Dana	89	39.6
LinkAja	76	33.8
Paypal	16	7.1

ApplePay	11	4.9
GooglePay	14	6.2
Others	5	2.2
M-payment application usage		
Online shopping	198	88.0
Food delivery	186	82.7
Top-up & bill payment	183	81.3
Transportation	137	60.9
Shop at retail/ minimarket	79	35.1
Others	9	4.0

Source: Primary Data (2021)

Measurements

The questionnaire included the items adopted from Shao et al. (2019), based on studies related to continuance intention (Bhattacherjee, 2001); trust (Huang et al., 2014); perceived risk (McKnight et al., 2002); mobility (Kim, Mirusmonov, & Lee, 2010); customization (Huang et al., 2014; Nidumolu & Knotts, 1998); security (Kim & Prabhakar, 2004; Kim et al., 2009); and reputation (Kim et al., 2009).

Results

All the data were collected from online questionnaires, and the hypothesis testing used SmartPLS 3.3 software.

Validity and Reliability Analysis

This study used convergent and discriminant validity to test each item's validity. The convergent validity was tested using average variance extracted (AVE) with a minimum value of 0.5, which is regarded as acceptable based on Henseler et al. (2016b). Table 2 shows that all the items had loading values between 0.520-0.919, and AVE values per construct were more than 0.5, which fulfilled the convergent validity criteria. Furthermore, the Fornell-Larcker validity test was carried out to test the discriminant validity (Garson, 2016). Table 3 shows that the squared-AVE values on the diagonal line of the correlation matrix were greater than each corresponding correlation value, indicating good discriminant validity. The reliability testing was performed using Cronbach's alpha with a rule of thumb of 0.6 (Sekaran & Bougie, 2013) and composite reliability (CR) with a rule of thumb of 0.7 (Lin et al., 2017). Table 2 shows that all the constructs had values for Cronbach's alpha above 0.6 and CR values above 0.7, which fulfilled the reliability criteria.

Table 2. Validity and Reliability

Construct	Item	Outer loading	AVE	Cronbach's Alpha	CR
Mobility	MOB1	0.739	0.643	0.722	0.843
	MOB2	0.813			
	MOB3	0.849			
Customization	CUS1	0.665	0.592	0.654	0.812
	CUS2	0.799			
	CUS3	0.834			
Security	SEC1	0.882	0.795	0.871	0.921
	SEC2	0.919			
	SEC3	0.872			
Reputation	REP1	0.844	0.683	0.769	0.866
	REP2	0.879			
	REP3	0.751			
Trust	TR1	0.850	0.766	0.847	0.908
	TR2	0.894			
	TR3	0.882			
Perceived Risk	PR1	0.520	0.544	0.617	0.774
	PR2	0.873			
	PR3	0.774			
Continuance Intention	CI1	0.819	0.705	0.790	0.877
	CI2	0.787			
	C13	0.908			

Source: Primary Data (2021)

Table 3. Fornell-Larcker Criteria

	Continuance Intention	Security	Trust	Customization	Mobility	Perceived Risk	Reputation
Continuance Intention	**0.839**						
Security	0.295	**0.892**					
Trust	0.489	0.658	**0.875**				
Customization	0.475	0.548	0.585	**0.769**			
Mobility	0.529	0.307	0.460	0.566	**0.802**		
Perceived Risk	-0.065	-0.182	-0.208	-0.127	0.014	**0.738**	
Reputation	0.521	0.622	0.709	0.555	0.470	-0.177	**0.827**

Source: Primary Data (2021)

Hypothesis Testing

The goodness of fit of the model was assessed using the standardized root mean square residual (SRMR) value. As Henseler et al. (2016a) suggested, the SRMR value is the only indicator for model fit. The study confirmed its research fit due to the SRMR value being 0.085, which was less than the rule of thumb of 0.10 (Hu and Bentler, 1998). The study tested two types of hypotheses, consisting of direct effect hypotheses, which were H1, H2, H3, H4, H6, H7, and H8, and moderating effect hypotheses, which were H5, H5a, H5b, H5c, and H5d.

Direct Effects

The testing results of the direct effect hypotheses are shown in Table 4. The significance level of the path coefficient was analyzed using the bootstrapping method with 5,000 re-samples, as recommended by Garson (2016). The findings showed that the mobility path coefficient was 0.101 with a p-value of 0.082. Thus, the relationship between mobility and trust was not significant. The positive effect of customization on trust was significant, with a path coefficient value of 0.143 and p-value of 0.013 ≤ 0.05. The positive effect of security on trust, with a path coefficient value of 0.305, and reputation on trust with a path coefficient value of 0.392, were also significant, due to a p-value of 0.000. Trust negatively affected perceived risk with a path coefficient value of -0.208 and a p-value of 0.011. The positive influence of trust on continuance intention was significant, with a path coefficient value of 0.497 and a p-value of 0.000. The perceived risk was found to have a positive effect on continuance intention. However, this effect was insignificant, with a path coefficient value of 0.038 and a p-value of 0.564.

Table 4. Summary of Hypothesis Testing

Hypothesis	Direction	Path Coefficient	t-statistics	p-value
H1: Mobility → Trust	Positive (+)	0.101	1.742	0.082
H2: Customization → Trust	Positive (+)	0.143	2.478	0.013
H3: Security → Trust	Positive (+)	**0.305**	5.418	0.000
H4: Reputation → Trust	Positive (+)	**0.392**	6.875	0.000
H6: Trust → Perceived Risk	Negative (-)	-0.208	2.540	0.011
H7: Trust → Continuance Intention	Positive (+)	**0.497**	9.539	0.000
H8: Perceived Risk → Continuance Intention	Positive (+)	0.038	0.577	0.564

Source: Primary Data (2021)

Moderating Effect of Gender

The study initially applied the measurement invariance of composite models (MICOM) procedure to test the moderating effect of gender, as shown in Table 5. Step 1 was completed by ensuring that the two subgroups were measured with the same constructs and indicators (configural invariance). Step 2 was compositional invariance. Unfortunately, the study found that continuance intention did not meet the requirements of Step 2, because its correlation value was smaller than the five percent quantile (Henseler et al., 2016b).

In Step 3, based on the mean difference (Step 3a) and variance difference (Step

3b), it could be concluded that the result represented a partial measurement variance. The permutation coefficient and multigroup analysis (MGA) outer loading that confirmed an invariance condition supported this result. This finding showed that the two groups were different. Therefore, MGA was done to analyze the difference in the path coefficient between the two groups, as shown in Table 6.

The study compared the relationship among variables with the path coefficient value of mobility, customization, security, and reputation on trust between the subgroups. Then, the p-value of the MGA test explained whether the coefficient difference between the subgroups was statistically significant. Based on the result in Table 6, the p values of each relationship were not significant (p values ≥ 0.05). Therefore, it could be concluded that gender did not moderate the relationship between trust and its antecedents.

Table 5. MICOM Measurement Invariance Test

Step 2			
	Original Correlation	**5% quantile**	**Compositional Invariance?**
Continuance intention	0.960	**0.979**	**No**
Security	0.998	**0.998**	**Yes**
Trust	0.998	**0.998**	**Yes**
Customization	0.999	**0.973**	**Yes**
Mobility	0.986	**0.949**	**Yes**
Perceived Risk	0.945	**0.260**	**Yes**
Reputation	0.998	**0.990**	**Yes**
Step 3a			
	Mean-Original Difference	**Confidence Interval 95%**	**Equal Mean Value?**
Continuance intention	-0.406	**[-0.274; 0.285]**	**No**
Security	-0.177	**[-0.296; 0.275]**	**Yes**
Trust	-0.243	**[-0.281; 0.268]**	**Yes**
Customization	-0.310	**[-0.316; 0.283]**	**Yes**
Mobility	-0.360	**[-0.293; 0.260]**	**No**
Perceived Risk	0.018	**[-0.273; 0.280]**	**Yes**
Reputation	-0.252	**[-0.312; 0.282]**	**Yes**
Step 3b			
	Variance-Original Difference	**Confidence Interval 95%**	**Equal Variance?**
Continuance intention	0.134	**[-0.338; 0.290]**	**Yes**
Security	0.172	**[-0.430; 0.375]**	**Yes**
Trust	0.117	**[-0.399; 0.463]**	**Yes**
Customization	0.289	**[-0.465; 0.495]**	**Yes**
Mobility	0.319	**[-0.500; 0.450]**	**Yes**
Perceived Risk	-0.320	**[-0.554; 0.457]**	**Yes**
Reputation	0.504	**[-0.635; 0.760]**	**Yes**

Source: Primary Data (2021)

Table 6. The Results of Multigroup Analysis

Hypothesis	Men		Women		*p-value* MGA	Conclusion
	Coefficient	*p-value*	Coefficient	*p-value*		
H5a: Mobility → Trust	0.024	0.846	0.129	0.045	**0.450**	Rejected
H5b: Customization → Trust	0.156	0.257	0.144	0.018	**0.919**	Rejected
H5c: Security → Trust	0.325	0.004	0.291	0.000	**0.769**	Rejected
H5d: Reputation → Trust	0.425	0.000	0.393	0.000	**0.827**	Rejected

Source: Primary Data (2021)

The Comparison of the Studies

Table 7 shows the difference between the original study by Shao et al. (2019) and this study, and shows the most critical factors that influence trust. The previous study in China showed that security had the biggest impact on customers' trust, while this study showed that reputation was the most critical factor in building customers' trust. Furthermore, the original study found that gender moderated the interactions between trust and its antecedents. In contrast, this study found no moderating effect of gender.

Table 7. Comparison Between Previous and Current Studies

Findings of the original study	**Findings of the current study**
Direct effect	
Mobility has a positive effect on trust in the platform.	The effect of mobility on trust is not significant.
Customization has a positive effect on trust in the platform.	Customization has a positive effect on trust.
Security has a positive effect on trust in the platform.	Security has a positive effect on trust.
Reputation has a positive and significant effect on trust in the platform.	Reputation has a positive effect on trust.
Trust in the platform has a negative effect on perceived risk.	Trust has a negative effect on perceived risk.
Trust in the platform has a positive effect on continuance intention.	Trust has a positive effect on continuance intention.
Perceived risk has a negative effect on continuance intention.	The effect of perceived risk on continuance intention is not significant.
Moderating effect	
The multigroup analysis showed a significant result. Thus, the moderating effect of gender is present.	The multigroup analysis showed an insignificant effect. Thus, the moderating effect of gender is not present.
The effect of mobility on trust is higher for men than women.	The effect of mobility is significant for women and not significant for men.

The effect of customization on trust is higher for women than men.	The effect of customization is significant for women, and not for men.
The effect of security on trust is higher for women than men.	The effect of security on trust is higher for men than women.
The effect of reputation on trust is higher for men than women.	The effect of reputation on trust is higher for men than women.

Source: Primary Data (2021)

Discussion

This study analyzed the importance of trust in affecting continuance usage intention and perceived risk. It also investigated the relationship between trust and its antecedents, and the moderating effect of gender. The findings of this study can help m-payment providers to strategically promote m-payment services within the Indonesian market, and retain users.

M-payment is growing very fast in Indonesia. Along with its fascinating growth, the competition among providers can be very high. M-payment providers are trying to attract more users, and retain their current ones, by emphasizing mobility, security assurance, and user referrals. However, building trust to promote a continuance usage intention is crucial. In this study, trust has been validated as a significant factor in the continuance intention. This result is supported by previous studies by Köster et al. (2016); Liébana-Cabanillas et al. (2014); Lu et al. (2017); Shao et al. (2019); and Zhou (2013). The respondents from the Indonesian market are experienced users who have already used m-payment applications for 1 to 3 years, have already formed their trust, and have the intention to continue using m-payment.

Furthermore, this study found that trust is important in decreasing the perceived risk. This finding aligns with prior studies by Lu et al. (2011), Shao et al. (2019), and Susilo et al. (2022). It indicates that users who trust an m-payment application may have a lower perception of any negative consequences from the transactions. Considering the high risk involved in m-payment transactions, trust can be a "safety net" for users that can reduce their perceived risk. Surprisingly, the study revealed that perceived risk does not affect continuance intention. Respondents perhaps use m-payment because they were impulsively drawn to make such transactions due to cashback offers or sales promotion programs. Thus, they naturally pay less attention to its risk. In addition, the sample, which consisted mostly of members of the younger generations, may affect the result because they are more familiar with technology and its usage in their lifestyle (Leon, 2018).

M-payment users usually choose m-payment applications that make a good impression and offer a reliable service. In line with the research by Lu et al. (2017), Oliveira et al. (2014), and Shao et al. (2019), this study found reputation to be the most significant predictor of trust. This finding indicates that m-payment applications with a good reputation will be more likely to earn their users' trust. In the context of m-payment, users cannot articulate trust easily. In return, users rely more on a good reputation and linking trustworthiness through the experiences of other users. Moreover, the users' perspectives on using m-payment tend to be influenced by others (Ming & Jais, 2022). Therefore, maintaining a good reputation and building a larger user base is essential to enhance trust.

Another factor that has a relatively high effect on trust is security. This positive impact of security on trust is supported in the studies by Shao et al. (2019), Xin et al. (2015), and Zhou (2011). The result is also in line with Budiarani et al. (2022), who found that safety is a must in order to further develop the usage of m-payment. It is because the uncertainty and network vulnerability when using m-payment transactions raise the importance of security, because the users worry about possible transaction errors, data breaches, or fraud. Therefore, they need to know that the application is reliable, and the data are well encrypted. The study also clarified that customization positively affects trust. This is consistent with previous studies by Huang et al. (2014), Kim et al. (2009), and Shao et al. (2019). Customization, which gives users more control over their transactions, can enhance trust. Therefore, promoting flexibility in controlling the payments or in-app processes can help induce trust to attract or retain existing users. Indeed, customization should be done after carefully researching the users' needs and wants.

Unlike customization, the flexibility related to mobility did not significantly affect trust. This finding conflicts with previous studies by Kim et al. (2009), Shao et al. (2019), Zhou (2011), Ming & Jais (2022), and Budiarani et al. (2022). This may occur due to the difference in m-payment usage between the previous study in China and this study in Indonesia. From the perspective of the Indonesian market, m-payment usage is still limited mostly to ride-hailing and e-commerce, while consumers in China use m-payment for various payment purposes. Mobility is a must when using m-payment services, and the young users in this study may have been familiar with m-payment's mobility (Leon, 2018). Hence, the mobility of m-payment applications would not enhance their users' trust. However, it is also a sign that mobility is expected to be the standard, and the minimum requirement that m-payment providers should provide.

In this study, which focuses on the Indonesian market, gender did not moderate the relationship between trust and its antecedents. Although this result differs from the studies by Kalinić et al. (2020), Shao et al. (2019), and Ming & Jais (2022), the study by Xin et al. (2015) and Oliveira et al. (2014) support this finding. The study in China showed that men and women respond differently toward specific m-payment attributes. It was revealed by Shao et al. (2019) that women are more prone to suffer from online transaction fraud than men. However, this study, in the Indonesian context, did not find the same result. The fact that both subgroups are experienced users might cause this result, as the effect of gender would be smaller when users are more experienced (Chawla & Joshi, 2020). The different gender gap between Indonesian users and Chinese users, and a significant difference in the number of respondents in this study, may also lead to different results. The unequal sample could have been formed because women tend to undertake online transactions more frequently than men do (Cao et al., 2018; Hootsuite & We Are Social, 2020).

It should be noted that a considerable imbalance was found in the previous study, and it did not affect the significance of the moderating effect (Kalinić et al., 2020; Zhou et al., 2018; Köster et al., 2016, Chong et al., 2012). In addition, the younger generation members in the sample usually have similar characteristics (Leon, 2018). Therefore, the effect of gender becomes insignificant.

Conclusions and Suggestion

Conclusions

This study draws several conclusions based on the results described and explained in the previous section. First, this study confirms that trust significantly affects continuance intention. Second, the trust-building model's factors, which are reputation and security, are the most significant antecedents that can enhance trust. Third, customization has a positive effect on trust. On the other hand, the impact of mobility on trust is insignificant.

In addition, this study proves trust has a negative effect on the perceived risk. However, the effect of the perceived risk on continuance intention is insignificant. Lastly, this study found that gender did not moderate the relationship between trust and its antecedents.

Managerial Implications

In the rapid development of m-payment systems, many providers now compete in the market. With many types of m-payment from various companies, the continuity of service would depend on how the company retains its users. In this matter, the continuance intention of using the service would benefit the providers by retaining users. Initially, this study reveals the positive effect of trust on continuance intention. Therefore, providers should focus more on building the users' trust to enhance the users' intentions to continue using m-payment services. In addition, trust is the factor that lowers the potential risk perceived by users. M-payment service providers must accomplish this by reminding users of the transaction's guarantee and data privacy.

In this study, reputation and security are the most significant antecedents that invoke trustworthiness. Hence, to enhance the users' continuance intention, m-payment providers should enhance trust by improving the security of the transactions and maintaining a good reputation. Users in Indonesia tend to use m-payment applications that are widely known and reputable. Therefore, popular e-wallets like GoPay and Ovo remain at the top of the users' minds. Improving the providers' reputations through referral programs and encouraging positive word-of-mouth can help providers to earn a good reputation and attract more users. Regarding the security aspect, providers need to increase the level of security due to network vulnerabilities and uncertainty when using m-payment. Periodic system upgrades and careful attention to user identity verification during system registration can accomplish this.

Furthermore, providers should ensure that m-payment applications are simple to customize, since users trust m-payment applications that give them control over the process. The customization is often related to the users' understanding of their transaction options. In order to understand their users' expectations and perceptions when using m-payment applications, providers could conduct user experience research. Understanding which features to customize can help to increase user confidence toward m-payment applications.

Finally, mobility may not be the main factor that influences Indonesian consumers. Consequently, providers should focus on other features for promoting m-payment usage. At the same time, gender did not moderate the relationship between trust and its antecedents. Therefore, for the Indonesian market, m-payment providers do not need to consider this factor when operating in Indonesia.

Limitation

This study has three limitations. First, this study assumes the m-payment application to be a general application that obviously can differ among brands, in terms of its features, performance, and functionality. Second, this study uses gender as a moderating variable, without controlling for other demographic backgrounds, such as education and age. Given that the younger generation formed most of the sample, their demographic background may affect their attitude toward technology. Third, the number of female and male respondents in this study needs to be more balanced. Future research can address these limitations by classifying the applications as objects, based on specific dimensions, and controlling the respondents' demographic backgrounds to make a balanced comparison.

References

Amoroso, D., & Lim, R. (2017). The mediating effects of habit on continuance intention. *International Journal of Information Management*, 37(6), 693–702. https://doi.org/10.1016/j.ijinfomgt.2017.05.003

Ansori, A. D. (Universitas G. M. (2021). *Pengaruh Kepercayaan (Trust) pada Intensi Keberlanjutan Penggunaan Aplikasi Pembayaran Bergerak*. Universitas Gadjah Mada.

Au, Y. A., & Kauffman, R. J. (2008). The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. *Electronic Commerce Research and Applications*, 7(2), 141–164. https://doi.org/10.1016/j.elerap.2006.12.004

Bhattacherjee, A. (2001). An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems*, 32(2), 201–214. https://doi.org/10.1016/S0167-9236(01)00111-7

Budiarani,V. H., Maulidan, R., Setianto, D. P. & Widayanti, I. (2022). THE KANO MODEL: HOW THE PANDEMIC INFLUENCES CUSTOMER SATISFACTION WITH DIGITAL WALLET SERVICE IN INDONESIA. *Journal of Indonesian Economy and Business*, 36(1), 68-82. https://doi.org/10.22146/jieb.59879

Cao, X., Yu, L., Liu, Z., Gong, M., & Adeel, L. (2018). Understanding mobile payment users' continuance intention: a trust transfer perspective. *Internet Research*, 28(2), 456–476. https://doi.org/10.1108/IntR-11-2016-0359

Chandra, S., Srivastava, S. C., & Theng, Y.-L. (2010). Evaluating the Role of Trust in Consumer Adoption of Mobile Payment Systems: An Empirical Analysis. *Communications of the Association for Information Systems*, 27(1), 561–588. https://doi.org/10.17705/1cais.02729

Chawla, D., & Joshi, H. (2020). The moderating role of gender and age in the adoption of mobile wallet. *Foresight*, 22(4), 483–504. https://doi.org/10.1108/FS-11-2019-0094

Chong, A. Y. L., Chan, F. T. S., & Ooi, K. B. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support Systems*, 53(1), 34–43. https://doi.org/10.1016/j.dss.2011.12.001

Dahlberg, T., Guo, J., & Ondrus, J. (2015). A critical review of mobile payment research. *Electronic Commerce Research and Applications*, 14(5), 265–284. https://doi.org/10.1016/j.elerap.2015.07.006

Dahlberg, T., Mallat, N., & Öörni, A. (2003). Trust enhanced technology acceptance model - consumer acceptance of mobile payment solutions: Tentative evidence. *Stockholm Mobility Roundtable*, 22-23.

Garson, G. D. (2016). *Single User License . Do not copy or post. Single User License . Do not* *copy or post*. https://www.smartpls.com/resources/ebook_on_pls-sem.pdf

Henseler, J., Hubona, G., & Ray, P. A. (2016a). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management and Data Systems*, 116(1), 2–20. https://doi.org/10.1108/IMDS-09-2015-0382

Henseler, J., Ringle, C. M., & Sarstedt, M. (2016b). Testing measurement invariance of composites using partial least squares. *International Marketing Review*, 33(3), 405–431. https://doi.org/10.1108/IMR-09-2014-0304

Hootsuite, & We Are Social. (2020). *Digital Indonesia*. https://andi.link/hootsuite-we-are-social-indonesian-digital-report-2020/

Hoy, M., & Milne, G. (2013). *Gender Differences in Privacy-Related Measures for Young Adult Facebook Users*. Retrieved from Tandfonline: https://www.tandfonline.com/doi/abs/10.1080/15252019.2010.10722168

Hu, L.-T. and Bentler, P.M. (1998). Fit Indices in Covariance Structure Modeling: Sensitivity to Underparameterized Model Misspecification. *Psychological Methods*, Vol. 3, No. 4, pp. 424-453.

Huang, L., Ba, S., & Lu, X. (2014). Building online trust in a culture of confucianism: The impact of process flexibility and perceived control. *ACM Transactions on Management Information Systems*, 5(1), 4:1-4:23. https://doi.org/10.1145/2576756

Iacurci, G. (2020, January 15). *Electronic payments usage is up, but comes with privacy issues for consumers*. CNBC. https://www.cnbc.com/2020/01/15/digital-payments-usage-is-up-but-comes-with-consumer-privacy-issues.html

IPrice & App Annie. (2020). *Top E-wallet in Indonesia Q2 2019-2020*. https://marketinginasia.com/2020/08/19/top-e-wallet-in-indonesia-q2-2019-2020/

Jakpat Survey Report. (2018). *Cashless Payment: Extended usage of Go-Pay and Ovo*. Jajak Pendapat. https://blog.jakpat.net/cashless-payment-extended-usage-of-go-pay-and-Ovo-survey-report/

Jakpat Survey Report. (2019). *Indonesia Digital Wallet Trend 2019 – JAKPAT Survey Report*. https://blog.jakpat.net/indonesia- digital-wallet-trend-2019-jakpat-survey-report

Jakpat Survey Report. (2020). *Indonesia Digital Wallet Trend 1st Semester of 2020 - JAKPAT Survey Report*. Jajak Pendapat. https://blog.jakpat.net/indonesia-digital-wallet-trend-1st-semester-of-2020-jakpat-survey-report/

Kalinić, Z., Liébana-Cabanillas, F. J., Muñoz-Leiva, F., & Marinković, V. (2020). The moderating impact of gender on the acceptance of peer-to-peer mobile payment systems. *International Journal of Bank Marketing*, 38(1), 138–158. https://doi.org/10.1108/IJBM-01-2019-0012

Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behavior*, 26(3), 310–322. https://doi.org/10.1016/j.chb.2009.10.013

Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems*, 44(2), 544–564. https://doi.org/10.1016/j.dss.2007.07.001

Kim, G., Shin, B., & Lee, H. G. (2009). Understanding dynamics between initial trust and usage intentions of mobile banking. Information Systems Journal, 19(3), 283–311. https://doi.org/10.1111/j.1365-2575.2007.00269.x

Kim, K. K., & Prabhakar, B. (2004). Initial Trust and the Adoption of B2C e-Commerce: The Case of Internet Banking. *Data Base for Advances in Information Systems*, 35(2), 50–64. https://doi.org/10.1145/1007965.1007970

Kim, Y.-M. (2010). Gender role and the use of university library website resources:A social cognitive theory perspective. *Journal of Information Science*, 603-617.

Köster, A., Matt, C., & Hess, T. (2016). Carefully choose your (payment) partner: How payment provider reputation influences m-commerce transactions. *Electronic Commerce Research and Applications*, 15, 26–37. https://doi.org/10.1016/j.elerap.2015.11.002

Koufaris, M., & Hampton-Sosa, W. (2004). The development of initial trust in an online company by new customers. *Information and Management*, 41(3), 377–397. https://doi.org/10.1016/j.im.2003.08.004

Leong, C. M., Tan, K. L., Puah, C. H., & Chong, S. M. (2021). Predicting mobile network operators users m-payment intention. *European Business Review*, 33(1), 104–126. https://doi.org/10.1108/EBR-10-2019-0263

Leon, S. (2018). Service mobile apps: a millennial generation perspective. *Industrial Management & Data System*, Vol. 118, No. 9, 1837-1850.

Li, X. (2004). Informational cascades in IT adoption. In *Communications of the ACM* (Vol. 47, Issue 4, pp. 93–97). https://doi.org/10.1145/975817.975824

Liébana-Cabanillas, F., Muñoz-Leiva, F., & Sànchez-Fernández, J. (2018). A global approach to the analysis of user behavior in mobile payment systems in the new electronic environment. *Serv Bus*, 25-64.

Liébana-Cabanillas, F., Sánchez-Fernández, J., & Muñoz-Leiva, F. (2014). Antecedents of the adoption of the new mobile payment systems: The moderating effect of age. *Computers in Human Behavior*, 35, 464–478. https://doi.org/10.1016/j.chb.2014.03.022

Lin, X., Featherman, M., & Sarker, S. (2017). Understanding factors affecting users' social networking site continuance: A gender difference perspective. *Information and Management*, 54(3), 383–395. https://doi.org/10.1016/j.im.2016.09.004

Linck, K., Pousttchi, K., & Wiedemann, D. G. (2006). SECURITY ISSUES IN MOBILE PAYMENT FROM THE. *14th European Conference on Information Systems (ECIS 2006), Goteborg, Schweden, May*, 1–11.

Lu, Y., Chau, M., & Chau, P. Y. K. (2017). Are sponsored links effective? Investigating the impact of trust in search engine advertising. *ACM Transactions on Management Information Systems*, 7(4), 12:1-12:33. https://doi.org/10.1145/3023365

Lu, Y., Yang, S., Chau, P. Y. K., & Cao, Y. (2011). Dynamics between the trust transfer process and intention to use mobile payment services: A cross-environment perspective. *Information and Management*, 48(8), 393–403. https://doi.org/10.1016/j.im.2011.09.006

Ma, Y. (2021). *Breakdown of mobile payment users in China 2020, by gender.* https://www.statista.com/statistics/1147655/china- gender-distribution-of-mobile-payment-users/

McKnight, H. D., Choudhury, V., & Kacmar, C. (2002). The impact of initial consumer trust on intentions to transact with a web site: A trust building model. *Journal of Strategic Information Systems*, 11(3–4), 297–323. https://doi.org/10.1016/S0963-8687(02)00020-3

McKnight, H. D., Cummings, L. L., & Chervany, N. L. (1998). Initial Trust Formation in New Organizational Relationship. *The Academy of Management Review*, 473-490.

MDI Ventures, & Mandiri Sekuritas. (2017). *Mobile Payments in Indonesia: Race to Big Data Domination*. https://www.mdi.vc/mobilepaymentindonesia.pdf

Ming, K. L. Y. & Jais, M. (2022). Factors Affecting the Intention to Use E-Wallets During the COVID-19 Pandemic. *Gadjah Mada International Journal of Business*, 24(1), 82-100. https://doi.org/10.22146/gamaijb.64708

Nidumolu, S. R., & Knotts, G. W. (1998). The effects of customizability and reusability on perceived process and competitive performance of software firms. *MIS Quarterly: Management Information Systems*, 22(2), 105–128. https://doi.org/10.2307/249392

Nurhayati-Wolff, H. (2020). *Number of Smartphone Users in Indonesia from 2015 to 2025*. Statista. https://www.statista.com/statistics/266729/smartphone-users-in-indonesia/

Oliveira, T., Faria, M., Thomas, M. A., & Popovič, A. (2014). Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. *International Journal of Information Management*, 34(5), 689–703. https://doi.org/10.1016/j.ijinfomgt.2014.06.004

Pavlou, P. A., & Gefen, D. (2004). Building effective online marketplaces with institution-based trust. *Information Systems Research*, 15(1), 37–59. https://doi.org/10.1287/isre.1040.0015

Ramadan, R., & Aita, J. (2018). A model of mobile payment usage among Arab consumers. *International Journal of Bank Marketing*, 36(7), 1213–1234. https://doi.org/10.1108/IJBM-05-2017-0080

Rogers, E. M. (2003). *Diffusion of Innovation*. Simon Schuster.

Rogers, E. M. (1995). *Diffusion of Innovation* 4th ed. New York: Simon Schuter.

Sánchez-Franco, M. (2006). Exploring the influence of gender on the web usage via partial least squares. *Behaviour & Information Technology*, 19-36.

San Martin, S., & Jiménez, N. H. (2011). Online buying perceptions in Spain: can gender make a difference? *Electron Markets*, 267-281.

Sekaran, U., & Bougie, R. (2013). *Research Methods for Business: a Skill Building Approach* (6th ed.). John Wiley and Sons, Ltd.

Shao, Z., & Zhang, L. (2018). What Promotes Customers' Trust in The Mobile Payment Platform: An Empirical Study Of Alipay In China. *The 11th International Conference on Information Resources Management (IRM), Ningbo, China.*

Shao, Z., Zhang, L., Li, X., & Guo, Y. (2019). Antecedents of trust and continuance intention in mobile payment platforms: The moderating effect of gender. *Electronic Commerce Research and Applications*, 33(August). https://doi.org/10.1016/j.elerap.2018.100823

Statista. (2020). *Digital Payment Indonesia*. Statista. https://www.statista.com/outlook/296/120/digital-payments/indonesia

Statista. (2021). *Indonesia's Global Gender Gap index score from 2011 to 2020*. https://www.statista.com/statistics/973044/global-gender-gap-score- indonesia/

Suh, B., & Han, I. (2003). The Impact of Customer Trust and Perception of Security Control on the Acceptance of Electronic Commerce. *International Journal of Electronic Commerce*, 135-161.

Susilo, G. F. A., Rani, U. & Khotijah, S. A. (2022). THE TRUSTING BELIEF OF USERS AND THE INTENTION TO CONTINUE MAKING PURCHASES VIA SOCIAL COMMERCE. *Journal of Indonesian Economy and Business*, 37(1), 1-14. https://doi.org/10.22146/jieb.v37i1.1402

Taylor, S., & Todd, P. A. (1995). Understanding Information Technology Usage. *Information System Research*, 144-176.

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, 157-178.

Venkatesh, V., Morris, M., & Ackerman, P. (2000). A Longitudinal Field Investigation of Gender Differences in Individual Technology Adoption Decision-making Processes. *Organizational Behavior and Human Decision Processes*, 33-60.

Xin, H., Techatassanasoontorn, A. A., & Tan, F. B. (2015). Antecedents of consumer trust in mobile payment adoption. In *Journal of Computer Information Systems* (Vol. 55, Issue 4, pp. 1–10). https://doi.org/10.1080/08874417.2015.11645781

Zhou, T. (2011). The effect of initial trust on user adoption of mobile payment. *Information Development*, 27(4), 290–300. https://doi.org/10.1177/0266666911424075

Zhou, T. (2013). An empirical examination of continuance intention of mobile payment services. *Decision Support Systems*, 54(2), 1085–1091. https://doi.org/10.1016/j.dss.2012.10.034

Zhou, W., Tsiga, Z., Li. B., Zheng, S., Jiang, S. (2018). What influence users' e-finance continuance intention? The moderating role of trust. *Industrial Management & Data Systems*, Vol. 118, No. 8, 1647-1670.

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