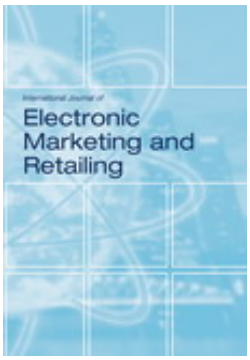

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Understanding consumer adoption and actual usage of digital payment instruments: comparison between Generation Y and Generation Z

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Abstract: The purpose of this study is to examine the factors that encourage people to use digital payment instruments, specifically from two tech-savvy generations: Generation Y and Generation Z. A total of 320 respondents from both generations were obtained through an online survey. The results revealed that Generation Y showed a lower tolerance to the risks involved in using digital payment and are prone to social environment influence. Meanwhile, Generation Z highly considered the performance quality, together with joy and satisfaction, from using digital payment. The results of this study could be an insight for concerning parties to give a better understanding of Generation Y and Generation Z's behaviours, especially on their stance of adopting technology. Hence, this study could help them devise the best way to approach these generations to market their products for research purposes.

Keywords: UTAUT2; stickiness to use cash; digital payment instruments; Generation Y; Generation Z.

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1 Introduction

The continuous development of information and technology has generated various types of non-cash payment instruments, such as debit cards, credit cards, electronic money, mobile and internet banking, and mobile payment, known as digital payment. Digital payment refers to a transaction that requires an individual to transfer funds via an electronic intermediary with authorisation from a certified institution (Sivathanu, 2018). Digital payment offers a fast, simple, and efficient way to conduct a transaction, a riveting alternative instead of cash. These benefits could function as a great motivation for people to adopt and use them in their daily lives. However, digital payment also comes with a risk that may be unnerving to some people, such as the security and privacy of their data, connection issues that might interrupt their transactions or lack of facilities that may hamper people in adopting it.

In the context of technology adoption, the generational difference may cause differences in the adoption process. Diversity is one of the major characteristics of generations, meaning that different generations hold different desires, experiences, expectations, values, lifestyles, and unique demographical features that affect the course of their life as well as their consumption and buying behaviour (Martin and Prince, 2009; Bucută, 2015). For example, Parment (2009) claimed that Generation Y is adept at grasping new opportunities and is accustomed to swift decision-making with fewer considerations taken into account compared to other generations (Lissitsa and Kol, 2016). Meanwhile, Generation Z, the avid users of technology, have already considered technology as an instrument for them to do their activities (Van den Bergh and Behrer, 2016; Priporas et al., 2017), which resulted in their way of life that requires everything to be instant and quick (Hutahaean, 2013). Subsequently, different generations may have some differences in the adoption process, requiring a different set of approaches.

Despite its shortcomings, digital payment has taken its toll; as many as 3.5 million worldwide have adopted it, generating five trillion US dollars (Statista, 2020). Southeast Asia is one of the regions that has experienced fast growth in the last three years (Bain & Company et al., 2020). This region has witnessed an exponential curve in terms of user base and transaction records, where up to 70% of the population has enjoyed digital habits (HAs) in 2020 (Choudhury, 2020).

The Southeast Asia region comprises 11 countries, which Indonesia is the biggest country in terms of population. Indonesia has a total population of roughly 262 million people (Badan Pusat Statistik, 2018), comprising 80.48 million Generation Y people (born between 1977 and 1995) (The Center for Generational Kinetics, 2016; Databoks, 2017). Additionally, people born between 1996 and afterward, also known as Generation Z, comprise 114.22 million people, which nearly 44 million of those are between the age of 15 to 23 years old. The total number of these generations combined make up for a monumental total of 74.31% of Indonesia's overall population.

This country has five types of digital payment instruments regulated by the Central Bank of Indonesia and are commonly used in society: debit card, credit card, server-based electronic money, chip-based electronic money, and electronic banking. Data from the Bank Indonesia (2019) shows that as of early 2019, there were 120 licensed ATM debit card operators and 36 licensed chip-based and server-based electronic money in Indonesia, respectively.

Meanwhile, 34 credit card providers are certified by the Central Bank of Indonesia as of October 2019. The term '*less-cash society*' was publicly mentioned by the Central

Bank of Indonesia to support creating a society where non-cash payment is more preferred (Djaafara, 2006). The initial plan released by the Central Bank of Indonesia in 2006 was encouraged with the campaign proclaimed by the Central Bank of Indonesia in August 2014 to boost the use of non-cash payment instruments by increasing the society's awareness regarding the usage of non-cash payment instruments in their transactions to be able to become a less-cash society (Segara, 2014). Surely, this campaign and plan by the Central Bank of Indonesia could become a tremendous supporting factor for consumers to be more open in adopting and comprehensively using digital payment instruments in their daily life.

This study focuses on understanding the adoption of digital payment instruments between Generation Y and Generation Z and their actual usage (AU) in their daily life. Moreover, this study extends from Sivathanu (2018) regarding the adoption of digital payment systems in India's demonetisation era and applies it to the Indonesian perspective. The study expands by examining the moderating effects of a generational cohort: Generation Y and Generation Z, which has an underlying basis theory by Inglehart (1977) about generational cohort. The decision to compare the two generations was meant to corroborate the difference between the two. The issue is still debatable regarding the difference between Generation Y or millennials and Generation Z (Moore et al., 2017). Therefore, it is imperative to know whether there exist differences between them to be certain on how to treat these generations accordingly, followed by the fact that these future generations would incorporate digital payment comprehensively in their daily life, especially because both of these generations are renowned for being highly familiar with the technology. Thus, it is fascinating to understand to what extent these groups would adopt and use digital payment in their lives.

2 Literature review

2.1 Generational cohort theory

According to Markert (2004), a cohort depicts a group that shares a common connection (Padayachee, 2017). In the generational perspective, a cohort represents a cluster of individuals who share mutual experiences and distinct characteristics due to those experiences (Eastman and Liu, 2012; Beldona et al., 2009). Furthermore, the generational cohort theory by Inglehart (1977) argues that individuals within a generation share a particular set of values, beliefs, attitudes, and behaviour that are shaped by experiencing major and noteworthy historical events that take place throughout the beginning of their life cycle (Chung et al., 2015). The digital era has massively changed the way people live, especially those people who grow during the dawn of the digital age and the ones who are exposed to it early in their life, which those people are categorised as Generation Y and Generation Z. Although both of these generations are considered to be tech-savvy with some shared similarities, such as being the first generation that has never felt life without the internet (Akçayır et al., 2016; Bennett et al., 2008; Wang et al., 2014; Roblek et al., 2019), several preceding research have postulated that they show different characteristics. For instance, millennials display several characteristics, such as optimism, self-confidence, and having an open mind to change; however, they are impatient and need instant satisfaction (Gilboa and Vilnai-Yavetz, 2010). Meanwhile, Generation Z is described as self-aware, persistent, realist, innovative, and independent (Merriman,

2015). The difference of characteristics mentioned before still needs to be explored further to understand the differing behaviours between the two generations, especially in the context of financial technology.

2.2 UTAUT2

Numerous models are theorising about the adoption of technology in various settings, beginning from the roots of it all, the theory of reasoned action (Fishbein and Ajzen, 1975) until the most recent one, the unified theory of acceptance and use of technology 3 (Farooq et al., 2017), which has the main goal to measure the intention of a person to perform a certain behaviour.

It has been frequently proven that behavioural intention (BI) is an important predictor of many behaviours (Sheppard et al., 1988; Albarracin et al., 2001; Sheeran et al., 2003; Venkatesh et al., 2008). One of them is to fathom technology acceptance or usage intention that has been incorporated by marketing and information research (Davis, 1989; Hong and Tam, 2006; Kim et al., 2008). BI is defined as an individual's awareness of plotting a particular type of behaviour that might or might not be carried out in the future (Warshaw and Davis, 1985). Seven independent variables were theorised to affect BI. Firstly, performance expectancy (PE) itself is explained as the expected advantages and performance improvement that consumers will perceive using a certain technology (Brown et al., 2010; Chua et al., 2018), which in this case is the digital payment technology. According to Venkatesh et al. (2012), effort expectancy (EE) is defined as an individual level of convenience concerning the use of technology. Social influence (SI) is described as the level of credence of consumers concerning the recommendations given by the highly valued people in their life, such as family and friends (Venkatesh et al., 2012). Facilitating conditions (FCs) are defined as the supporting factors surrounding the consumers in adopting and using technology or a system (Venkatesh et al., 2003; Brown et al., 2010). Hedonic motivation (HM) means the fun or satisfaction that originates from using technology, which contributes to the BI to use technology (Venkatesh et al., 2012). The price value (PV) is the additional value that consumers perceived by using something compared to the cost imposed (Dodds et al., 1991; Venkatesh et al., 2012). Meanwhile, HA is explained as the repeated behaviour of an individual as a result of a previous learning process (Limayem et al., 2007; Venkatesh et al., 2012). These antecedents were postulated to influence an individual's BI.

2.3 Innovation resistance theory

Furthermore, the innovation resistance (IR) theory proposed by Ram and Sheth (1989) has the purpose of explaining a consumer's refusal towards uncertainties surrounding an idea or an innovation in comparison to their current convenient condition. The IR is influenced by five antecedents: usage barrier (UB), value barrier (VB), risk barrier (RB), traditional barrier (TB), and image barrier (IB). Accordingly, the UB is a prevalent cause when innovation does not fit an existing system in an organisational environment (Ram and Sheth, 1989). Meanwhile, the VB is another consideration by consumers on whether an innovation gives a stronger performance and more benefits compared to the other substitutes based on the monetary value involved in both options; if not, then there is no enticement for them to change (Ram and Sheth, 1989). The RB is the uncertainties surrounding innovations that may have unwanted potential side effects for customers who

use them (Ram and Sheth, 1989). Moreover, the traditional barrier is a form of resistance that emerges when an innovation is not consistent with an individual's beliefs (Ram and Sheth, 1989; Laukkanen and Kiviniemi, 2010). Lastly, the IB is defined as an individual's perception concerning innovation regarding its negative impression and reputation in public (Ram and Sheth, 1989; Laukkanen and Kiviniemi, 2010).

2.4 Stickiness to cash payment

Originally, stickiness was first mentioned in relation to a website's ability to grasp and withstand a user's attention to stay on that website (Maciag, 2000; Demers and Lev, 2001; Sivathanu, 2018). Accordingly, in her study regarding 'Online stickiness: its antecedents and effect on purchasing intention', Lin (2007) elucidated stickiness as the personal willingness of an individual to visit again and extend the time they spent on a website. In accordance, the following study by Hsu and Lin (2016) mentioned stickiness as an inclination of customers to repeat the use of a mobile application and lengthen their period of staying in that application. Moreover, the study by Hsu and Lin (2016) confirmed that stickiness function as a robust predictor towards an individual's intention to make transactions within an application.

Sivathanu (2018) further developed and modified this online stickiness in a website into a different context, which is the stickiness to use cash payments, based on the considerations that digital payment systems are relatively new, compared to cash that has been around for a longer time and has been trusted more in the society. Accordingly, Sivathanu (2018) found out that stickiness as a moderating variable shows a significant effect between BI and digital payment systems' AU. Hence, comprehending the repercussion of stickiness from the customer's perspective is required (Lin, 2017).

3 Research methodology

This study aims to understand the factors that affect the AU of digital payment instruments between Generation Y and Generation Z. Essentially, the model above was adapted from the previous study by Sivathanu (2018), in which it is a combination of two models which are UTAUT2 (Venkatesh et al., 2012), and IR theory (Ram and Sheth, 1989), as well as a moderating variable, called consumer stickiness to use cash payment, alongside the additional variables mentioned earlier, namely PV and the generational groups as the group moderating variable.

In the study done by Sivathanu (2018), PE, EE, SI, FCs, HM, and HA were found to have a significant and positive impact on an individual's BI. Meanwhile, PV was not included in Sivathanu's (2018) study due to the demonetisation period in India, where there was no cost imposed on any digital transactions because of the GoI incentives. On the other hand, this study includes it because there are still various direct and indirect costs related to the usage of digital instruments in Indonesia. However, other studies in a similar context incorporated PV and found that PV is a significant predictor. For instance, in one study concerning mobile banking (Kwateng et al., 2019) and mobile wallet service (Amoroso and Magnier-Watanabe, 2012; Madan and Yadav, 2016). Accordingly, UB, VB, RB, TB, and IB were discovered to significantly impact an individual's resistance to innovation. Moreover, BI was found to have a significant and positive impact on the AU of an individual, while IR was found to have a significant and negative impact. Lastly,

consumer stickiness to use cash payments was validated as a significant variable moderating the relationship between BI and AU (see Figure 1). Additionally, a comparing hypothesis was added to determine whether there is a difference between the BI and IR toward the AU between Generation Y and Generation Z to be more certain of the nature of the relationship between those two generations. Thus, the following hypotheses were formulated:

H1 PE positively influences BI to use digital payment instruments

H2 EE positively influences BI to use digital payment instruments

H3 SI positively influences BI to use digital payment instruments

H4 FCs positively influences BI to use digital payment instruments

H5 HM positively influences BI to use digital payment instruments

H6 PV positively influences BI to use digital payment instruments

H7 HA positively influences BI to use digital payment instruments

H8 UB positively influences IR to use digital payment instruments

H9 VB positively influences IR to use digital payment instruments

H10 RB positively influences IR to use digital payment instruments

H11 TB positively influences IR to use digital payment instruments

H12 IB positively influences IR to use digital payment instruments

H13 BI to use digital payment instruments positively influences AU of digital payment instruments

H14 IR to digital payment instruments negatively influences the AU of digital payment instruments

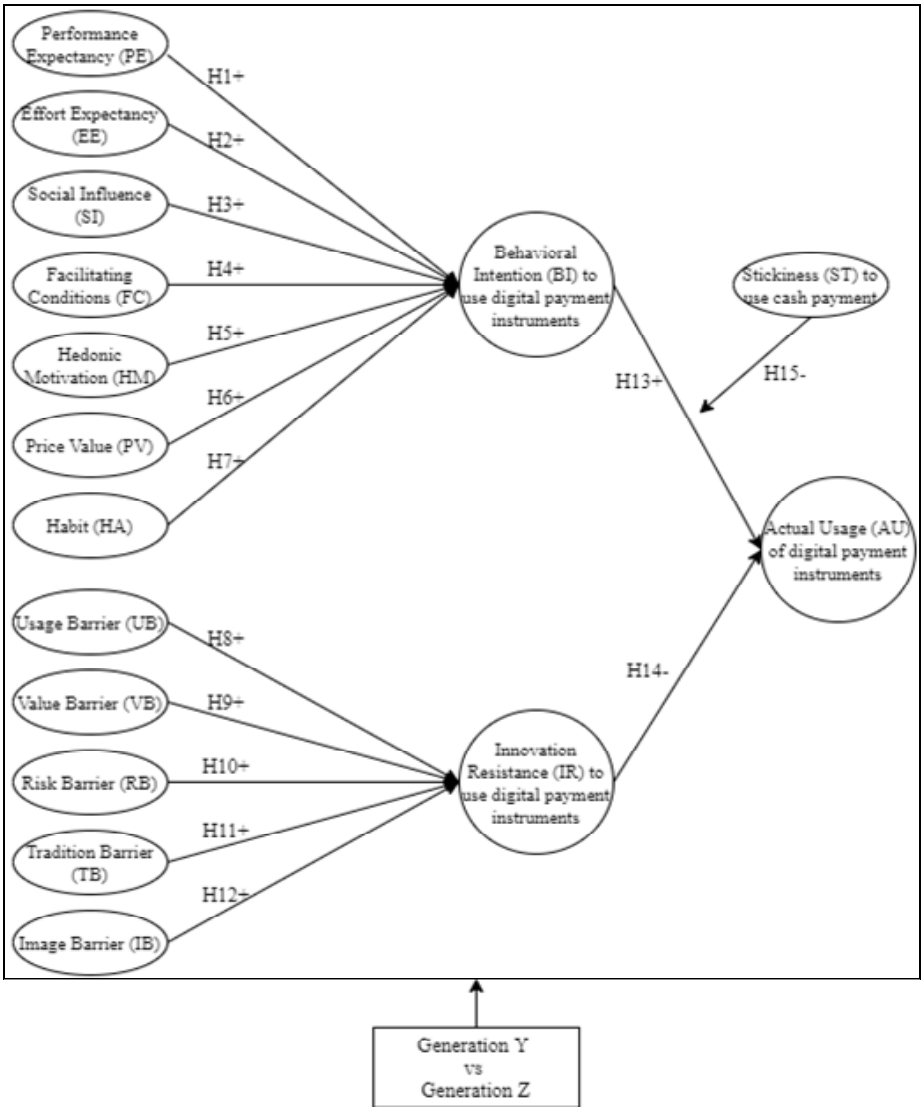
H15 Consumer stickiness to cash payment moderates the relationship between BI and AU of digital payment instruments

H16 There is a difference between Generations Y and Z in

- a terms of adoption
- b IR
- c AU of digital payment instruments.

This study implemented descriptive research to understand consumer adoption and AU of digital payment instruments between Generation Y and Generation Z based on the integrated model by Sivathanu (2018). Furthermore, the research scope of this study consists of individuals who were born between the year 1977 until 1995, which are categorised as Generation Y or millennials, as well as individuals who were born between the year 1996 to 2004, also known as Generation Z. Originally, researchers have not yet reached a decision on when is the cut off year for Generation Z, however, for this study, the cut-off year was established at 2004 under consideration of the Indonesian Labor Law Act 13 of 2003, which stated that the minimum working age is 15 years old.

Figure 1 Hypothesised conceptual model



Additionally, these individuals must have used one of the digital payment instruments inspected in this study dating back to the previous six months. Meanwhile, the focus of the geographical scope of this study is Indonesia because the Central Bank of Indonesia declared its campaign to become a less-cash society under the national non-cash movement; thus, it is implied that the government plan is to accommodate Indonesia as a whole.

Primary data were gathered for this study to provide empirical findings and supporting facts for the aforementioned findings. The survey used an online survey platform called Qualtrics, which was distributed through a link posted on social media (i.e., Instagram, Line and WhatsApp). The researcher chose and used the purposive or judgmental sampling of the non-probability sampling method for the data collection

where the researcher selects the population elements based on their judgment (Malhotra, 2010); in this case, quota sampling was implemented in this study by establishing proportions of respondents of each generation, namely Generation Y and Generation Z, which are equally divided into 160 respondents from Generation Y and 160 respondents from Generation Z, totalling in 320 collected samples for the study. Furthermore, a multiple cross-sectional design was implemented in this study as the information was obtained only once from two or more samples of respondents from the target population (Malhotra, 2010).

Before conducting the main test, a pre-test was first equally distributed to 60 respondents from Generation Y and Generation Z. The pre-test data were then analysed using the IBM SPSS 22 statistics to determine its reliability and validity. Afterward, structural equation modelling (SEM) was implemented in this study to assess the measurement properties and test the significance of the relationship between the proposed theoretical constructs (Malhotra, 2010). Specifically, the partial least squares-structural equation modelling (PLS-SEM) was used, as it could test the conceptual research framework and could assist the researcher in assessing the causal relationship between the indicators and the latent constructs (Lohmöller, 1989; Gudergan et al., 2008). Furthermore, the PLS-SEM test was conducted using SmartPLS 3.0 to conduct the measurement, structural model analysis, and multi-group analysis to compare the results between the two generations.

4 Results

The survey managed to gather 413 respondents at first, however, due to some data cleaning, 93 were not considered further as they did not finish the entire questionnaire. Finally, 320 respondents were eligible to participate in the study. They were equally divided between Generation Y and Generation Z; 160 respondents were born between 1977 to 1995, and the other half were born between 1996 and 2004. The demographics of the gathered respondents could be seen in Table 1.

Table 1 Respondent demographics profile

	Freq. Gen Y and Z	*%*	*Freq. Gen Y*	*Freq. Gen Z*
Generation				
Generation Y	160	50	160	-
Generation Z	160	50	-	160
Gender				
Female	196	61	97	99
Male	124	39	63	61
Frequency of use of digital payment instruments				
Once or more than once in a day	140	44	70	70
Once every 2 or 3 days	97	30	45	52
Once every 4 to 6 days	20	6	10	10
Once a week	49	15	25	24
Once a month	14	5	10	4

Table 1 Respondent demographics profile (continued)

	Freq. Gen Y and Z	*%*	*Freq. Gen Y*	*Freq. Gen Z*
Most frequently used digital payment instruments				
Debit/credit card	98	30.7	58	40
Server-based electronic money	161	50.3	67	94
Chip-based electronic money	26	8.1	14	14
Electronic banking	35	10.9	21	12
Domicile				
DKI Jakarta	188	59	91	97
West Java	68	21	27	41
Banten	44	14	27	17
Others	20	6	15	5
Income				
<Rp.1,500,000	76	24	10	66
Rp.1,500,000– Rp.3,000,000	71	22	11	60
Rp.3,000,001– Rp.6,000,000	67	21	41	26
> Rp.6,000,000	106	33	98	8

Overall, based on Table 2, most items fulfilled the sufficient criteria to be valid and reliable. Hence, the table below represents the data that is both reliable valid and have met all the necessary criteria of the internal consistency reliability (CA > 0.70; CR > 0.708), indicator reliability (OL > 0.70), convergent validity (AVE > 0.50), and discriminant validity by looking at the Fornell-Larcker criterion and the cross-loadings, in which it has the objective to show that the construct measures what it intends to measure and are not related to any other constructs (Hair et al., 2014).

Table 2 Measurement model

Latent variable and indicator	*OL*	*CA*	*CR*	*AVE*
Performance expectancy				
I feel that digital payment instrument is useful in my daily life	0.754	0.81	0.876	0.639
Digital payment instruments optimise my financial transactions	0.879			
Digital payment instruments fasten me in completing my financial transactions	0.772			
Digital payment instruments help me to enhance my productivity	0.787			
Effort expectancy				
Digital payment instruments are simple to learn	0.824	0.854	0.901	0.695
My interaction with digital payment instruments is clear and understandable	0.874			
Digital payment instruments are simple to use	0.758			
It is not difficult for me to master the use of digital payment instruments	0.874			

Table 2 Measurement model (continued)

Latent variable and indicator	*OL*	*CA*	*CR*	*AVE*
Social influence				
The people around trigger me to use digital payment instruments	0.776	0.791	0.877	0.705
I find digital instruments trendy	0.870			
I get a professional image in society due to the use of digital payment instruments	0.869			
Facilitating conditions				
I am equipped with the essential resources to use digital payment instruments	0.884	0.719	0.877	0.781
I am proficient in using digital payment instruments	0.883			
Hedonic motivation				
I find joy by using digital payment instruments	0.928	0.867	0.919	0.790
I enjoy the use of digital payment instruments	0.910			
I feel amused by using digital payment instruments	0.826			
Price value				
I feel that the cost that come from using digital payment instruments is reasonable	0.855	0.850	0.909	0.768
I receive additional value, despite the cost that arises from using digital payment instruments	0.896			
With the current price, digital payment instruments provide sufficient value for me	0.877			
Habit				
Using digital payment instruments have become my daily routines	0.830	0.860	0.915	0.782
I depend on digital payment instruments to do my financial transactions	0.913			
Using digital payment instruments are mandatory for me	0.909			
Behavioural intention				
I am planning to do transactions using digital payment instruments in the foreseeable future	0.809	0.898	0.925	0.712
I will always try to use digital payment instruments in my daily life	0.893			
I intend to proceed using digital payment instruments more often	0.863			
I intend to manage my financial accounts with the aid of digital payment instruments	0.778			
I intend to do financial transactions with the aid of digital payment instruments	0.870			
Usage barrier				
I think that digital payment instruments are not simple to use	0.816	0.831	0.887	0.664
I think that digital payment instruments are inconvenient	0.886			
I think that digital payment instruments are not fast	0.739			
I think that the development in digital payment instruments could not be understood easily	0.811			

Table 2 Measurement model (continued)

Latent variable and indicator	*OL*	*CA*	*CR*	*AVE*
Value barrier				
The use of digital payment instruments is uneconomical	0.854	0.776	0.867	0.687
I think that digital payment instruments do not offer any significant advantage compared to other ways of dealing with my financial conditions	0.875			
I think that the use of digital payment instruments does not improve my ability to handle my personal financial conditions	0.751			
Risk barrier				
I am very concerned with the mistakes that I might make when filling in sensitive information in any digital payment instruments before making a financial transaction	0.813	0.875	0.890	0.620
I am worried about the connection volatility that may cause negative effects when I am using digital payment instruments	0.722			
I am anxious about inputting the incorrect bill information when using digital payment instruments	0.818			
I am afraid that I might lose my pin codes, and that it might be obtained by the wrong people	0.721			
I am fearful while using digital payment instruments, as third party might get access to my account information	0.852			
Tradition barrier				
I feel that using digital payment instruments does not fit my lifestyle	0.916	0.707	0.869	0.769
I prefer paying with cash	0.836			
Image barrier				
I view that digital payment instruments have a bad image	0.860	0.863	0.916	0.784
In my opinion, new technology of digital payment instruments is often too complicated to use	0.891			
I feel that digital payment instruments are hard to use	0.905			
Innovation resistance				
I might use digital payment instruments but not now	0.759	0.796	0.881	0.713
I will never use digital payment instruments	0.890			
I am totally against using digital payment instruments	0.878			
Actual usage				
I use digital payment instruments frequently	0.821	0.807	0.874	0.635
I use digital payment instruments to manage my accounts	0.744			
I use digital payment instruments to do financial transactions	0.861			
I sign up for financial services that are specially designed for digital payment instruments	0.756			
Stickiness to use cash payment				
I always use cash payment instrument when I can	0.906	0.706	0.871	0.771

Furthermore, there was no sign of severe collinearity issues in the constructs, as the values in both the outer and the inner model showed that they are all below the threshold of 5.00, which indicated that there are no severe collinearity issues. Regarding the coefficient of determination or R^2, the acceptable result is 0.20 or higher than that (Hair et al., 2011). In this study, all values exceed the minimum threshold, AU, BI, and IR have an R^2 value of 0.357, 0.589, and 0.481, respectively, meaning that the antecedents successfully determine 35.7%, 58.9%, and 48.1% of these values. Furthermore, a blindfolding procedure was done to know the predictive relevance of the constructs, with the minimum value being greater than zero (Hair et al., 2019). The value of Q^2 in this study are all higher than zero, with the value of 0.209 for AU, 0.386 for BI, and 0.312 for IR, in which the values indicate that the path model is precise and suitable for each particular construct (Sarstedt et al., 2017).

Table 3 Hypotheses testing summary

Hypothesis		*Path coefficient (t-values) (Gen Y and Z)*	*Conclusion*
H1	Performance expectancy to behavioural intention (+)	0.107 (1.946)	Supported
H2	Effort expectancy (EE) to behavioural intention (+)	–0.011 (0.240)	Not supported
H3	Social influence (SI) to behavioural intention (+)	0.107 (2.288)	Supported
H4	Facilitating conditions (FC) to behavioural intention (+)	0.059 (1.112)	Not supported
H5	Hedonic motivation to behavioural intention (+)	0.155 (2.676)	Supported
H6	Price value to behavioural intention (+)	0.068 (1.141)	Not supported
H7	Habit to behavioural intention (+)	0.475 (7.626)	Supported
H8	Usage barrier to innovation resistance (+)	0.172 (1.946)	Supported
H9	Value barrier to innovation resistance (+)	0.011 (0.174)	Not supported
H10	Risk barrier to innovation resistance (+)	0.118 (2.101)	Supported
H11	Tradition barrier to innovation resistance (+)	0.174 (2.868)	Supported
H12	Image barrier to innovation resistance (+)	0.455 (5.838)	Supported
H13	Behavioural intention to actual usage (+)	0.461 (7.418)	Supported
H14	Innovation resistance to actual usage (–)	–0.235 (3.707)	Supported
H15	Consumer stickiness to use cash payment to the relationship between behavioural intention and actual usage	–0.104 (2.222)	Supported

According to Hair et al. (2014), the value of the path is in the numbers between –1 and +1. The strength of each relationship depends on the positive or negative relationships of the hypotheses. Table 3 presents the t-values for the hypotheses in the study, which was determined based on the level of significance of 0.05 (5%). As a one-tailed hypothesis, the t-values greater than 1.645 are considered significant, and if it is below the aforementioned value, the relationship is not significant.

Table 4 Model comparison results

Hypothesis		*Path coefficient Gen Y*	*Path coefficient Gen Z*	*Path coefficient difference*	*t-value (Gen Y vs. Gen Z)*	*p-value (Gen Y vs. Gen Z)*
H1	Performance expectancy to behavioural intention (+)	0.181	0.006	0.175	1.627	0.052
H2	Effort expectancy (EE) to behavioural intention (+)	0.018	0.001	0.017	0.180	0.429
H3	Social influence (SI) to behavioural intention (+)	0.006	0.217	0.211	2.333	*0.010**
H4	Facilitating conditions (FC) to behavioural intention (+)	0.012	0.093	0.081	0.795	0.214
H5	Hedonic motivation to behavioural intention (+)	0.203	0.044	0.159	1.412	0.079
H6	Price value to behavioural intention (+)	0.147	0.032	0.115	0.988	0.162
H7	Habit to behavioural intention (+)	0.394	0.565	0.170	1.476	0.070
H8	Usage barrier to innovation resistance (+)	0.083	0.259	0.175	1.053	0.146
H9	Value barrier to innovation resistance (+)	–0.086	0.188	0.275	2.057	*0.020**
H10	Risk barrier to innovation resistance (+)	0.079	0.220	0.141	1.141	0.127
H11	Tradition barrier to innovation resistance (+)	0.176	0.162	0.014	0.120	0.452
H12	Image barrier to innovation resistance (+)	0.482	0.366	0.116	0.786	0.216
H13	Behavioural intention to actual usage (+)	0.444	0.470	0.026	0.205	0.419
H14	Innovation resistance to actual usage (–)	–0.217	–0.311	0.094	0.743	0.229
H15	Consumer stickiness to use cash payment (–)	–0.031	–0.013	0.020	0.214	0.415

Notes: *significant when the value is <0.05; t-value significant when the value is >1.645 (α = 5%. one-tailed).

Based on Table 3, from the overall respondents from Generation Y and Generation Z, it can be seen that 11 out of 15 hypothesised relationships were supported, which is consistent with the results of a previous study by Sivathanu (2018). In addition, the hypothesis to determine whether there is a difference between Generation Y and Generation Z was partially supported because only two hypotheses indicated significance.

Nevertheless, four hypothesised relationships were not supported in this study, which differs from a preceding study by Sivathanu (2018), namely: EE, FCs, PV, and VB. Firstly, EE was found to have a weak relationship. However, other researchers posited a similar result, such as Kwateng et al. (2019), Zhou et al. (2010) and Gu et al. (2009) in their study of mobile banking services. Moreover, FCs were found to be insignificant as well. Accordingly, several researchers also unveiled FCs to be an insignificant factor that affects the BI of an individual, such as Slade et al. (2015) and Oliveira et al. (2016) in the context of the adoption of mobile payment, as well as Boonsiritomachai and Pitchayadejanant (2017) in the case of the adoption of mobile banking.

Additionally, the relationship between PV and the BI of an individual also differs from the result of Sivathanu (2018). However, in the context of the adoption of mobile payment, several researchers such as Slade et al. (2015), Oliveira et al. (2016) and Hussain et al. (2019) also found PV to be insignificant towards the BI of an individual. Lastly, the VB was also found to be an insignificant determinant of the IR of an individual, unlike in the results of the study by Sivathanu (2018). This result is similar to the study by Laukkanen (2016) regarding the adoption of mobile banking, in which VB was discovered to have a weak relationship towards the IR to adopt.

A multiple group analysis was conducted in regards to test the difference of adoption and AU of digital payment instruments between Generation Y and Generation Z. The findings showed that there were two significant differences between Generation Y and Generation Z, which consists of the relationship between SI towards BI and VB towards IR (Table 4).

Firstly, the difference between these two generations could be seen from the relationship between SI towards BI, with a t-value of 2.333 and a path coefficient and p-value of 0.211 and 0.01, respectively. The data show that Gen Z has a higher path coefficient (0.217) compared to Gen Y (0.006), indicating a significant difference in the hypothesised relationship, meaning that Gen Z is more prone to the opinion of their significant ones (e.g., family and friends). The previous statement could be supported by the findings of a study conducted by The Center for Generational Kinetics, which aims to discover the difference between Generation Y and Generation Z in several different contexts, such as social media usage, spending, and job seeking. In their study, it was discovered that in terms of job-seeking, Generation Z prefers to go to their family and friends for advice when looking for a job rather than discovering it online (The Center for Generational Kinetics, 2018). The previous finding suggests that even though Generation Z is highly exposed to the digital world, they still seek advice from their significant ones in deciding something. Though the previous finding discussed job seeking, it is safe to assume that Generation Z also seeks advice about other things from their significant ones.

Furthermore, another difference between these two generations was found in the relationship between VB towards IR, with a t-value of 2.057, with a path coefficient and a p-value (0.275 and 0.02) respectively. The data shows that Generation Z has a higher path coefficient (0.188) compared to Generation Y (–0.086), indicating a significant difference between these generations, which means that Generation Z put more

consideration into the benefit that comes from using digital payment in comparison to the monetary costs involved compared to Generation Y.

Lastly, the abovementioned relationships were discovered to be significantly different between Generation Y and Generation Z. On the other hand, the rest of the hypothesised relationships consisting of the relationship between PE, EE, FCs, HM, PV, and HA towards BI did not significantly differ between the two generations. Similarly, UBs, RBs, TBs, and IBs toward IR, BI, and IR toward AU, as well the stickiness to use cash payment, which moderates the relationship between BI and AU, did not show any significant difference between Generation Y and Generation Z.

More importantly, it is safe to assume that Hypothesis 16 (H16: there is a difference between adoption, IR, and AU of digital payment instruments between Generation Y and Z) was partially supported, as it could be seen that there are two significant differences found from the results consisting of the differences in the relationship between SI towards BI and VB towards IR.

5 Discussion

The results of this study corroborate those of the previous theories while also providing some new insight, especially concerning the difference of behaviours between Generation Y and Generation Z. Firstly, the analysis of both generations showed that most of the variables from BI as proposed from the previous study by Venkatesh et al. (2012) and was also confirmed in other studies surrounding the adoption of a certain innovation or technology, which includes PE, SI, HM, and HA (Thakur, 2013; Madan and Yadav, 2016; Oliveira et al., 2016; Tan and Lau, 2016; Hussain et al., 2019; Morosan and DeFranco, 2016) do in fact act as an encouragement for both of these generations to adopt and use digital payment in their lives.

Conversely, the other three variables, which are EE, FCs, and PV have a weak effect on the intention to adopt and use digital payment (Zhou et al., 2010; Kwateng et al., 2019; Slade et al., 2015; Boonsiritomachai and Pitchayadejanant, 2017) which several things could cause. Firstly, EE, also known as the individual level of convenience with the use of technology, was insignificant, which could be caused by the respondents being tech-savvy individuals and do not feel any inconvenience in terms of learning and using digital payment instrument. Moreover, one reason that could explain the weak effect of FCs towards BI is the tools (e.g., smartphone and internet connection) used by the individual that might be inadequate to facilitate a decent payment process. Meanwhile, the weak relationship between PV and BI could result from the characteristics of Indonesians who are known to be price-sensitive (Snapcart, 2017). It could be safely assumed that the respondents did not feel a significant benefit from using digital payment instruments compared to the cost endured.

Furthermore, the results of the study show that the variables of IR from the preceding study by Ram and Sheth (1989), UB, RB, TB, and IB, act as an obstruction that will hamper or even discontinue their intention to adopt and use digital payment, which is congruent with previous studies (Laukkanen et al., 2007; Moorthy et al., 2017; Antioco and Kleijnen, 2010; Dotzauer and Haiss, 2017). Meanwhile, the notion of consumers being concerned that the benefits of digital payment do not outweigh the monetary value endured, also known as the VB, does not serve as a strong barrier to consumers using digital payments (Laukkanen, 2016).

The stickiness to use cash payment, which acts as a moderating variable as proposed by Sivathanu (2018), was proven to have a negative effect on the intention of a person to use digital payment instruments, which is congruent to the result of the previous study. Thus, indicating that the use of cash still acts as one of the barriers in using digital payment

Lastly, as promised in the title of the study to compare the behaviours of Generation Y and Generation Z. The study unveiled two major differences in terms of the variables that affect the adoption and AU of digital payment instruments, which include the relationship between SI towards BI or also known as the social environment (e.g., friends and family) that affects an individual before making a decision, which is stronger in Generation Z with a t-value of 2.333, a path coefficient and p-value of 0.211 and 0.01 respectively. Additionally, the relationship between VBs and IR shows a t-value of 2.057, with a path coefficient and a p-value of 0.275 and 0.02, respectively. This relationship is described as the consideration taken into account by an individual when he or she is deciding to adopt a certain innovation by comparing the benefit received in comparison to the other alternatives in terms of the monetary costs involved, which was found to be stronger in Generation Z compared to Generation Y.

6 Managerial implications

There are several managerial implications that the researcher could offer based on the analysis of the results of this study. The implications are intended for the parties involved, as the providers of the digital payment services, to address the needs of the consumers. Firstly, both of these generations are habituated to digital payments, and marketers need to intensify their efforts to obtain market share and retain these generations' loyalty to grasp them in the long-term, especially because there are numerous existing competitors nowadays, and it keeps on growing. For instance, companies could persuade these generations by giving out promotions like some companies have been doing. This initiative will cost a lot of money for companies in the short-term. However, once these generations have become used to using a digital payment instrument, there is a high probability that they will be using it in the long-term.

Secondly, both groups still have a negative image from the use of digital payment instruments that could be related to data privacy, security, or network issues. Hence, marketers need to ensure that preventive measures have been taken to address these issues to eliminate or minimalise these negative images from the public. Some measures could address this, such as providing more transparent terms and conditions with the offered service to ensure that customers are fully aware of how their data is being used. Certainly, due to the differences in the factors that influence both generations, different courses of action should be taken by marketers to properly face these generations. The findings of this study indicate that the risk involved when using digital payment, such as the safekeeping of the consumer's data, is one of the barriers that obstruct them from using digital payment. Hence, marketers could address this issue by assuring users that their data is safe and will not be used by other unknown third parties.

Another thing that needs to be resolved is the notion of these generations that the existing digital payment instruments still contain several unsatisfactory aspects. Thus, marketers may search for the unsatisfactory aspects of their products to satisfy this group of consumers. The results also suggest that Generation Z is vulnerable to the influence of

their peers and family, in the sense that they still seek advice from their peers and family in deciding something. This could be an opportunity for marketers to devise a strategy that involves word-of-mouth marketing to attract this group.

Generation Z was postulated to be a generation that prefers everything to be quick, proven by the result of this study, which indicates that the performance of digital payment is one of the significant factors that influence them in adopting a certain innovation. Hence, marketers could consult with their product teams to ensure the improvement of product performance quality. Companies could consider investing in better technology infrastructure (e.g., increasing server capability) regardless of the type of digital payment instrument to support the performance of the payment platform. Secondly, the study revealed that this generation considers the fun and satisfaction derived from an enjoyable use of digital payment as an aspect that influences them in adopting the technology. Moreover, the majority of Generation Z respondents in this study (N = 94 or 59% of the total Gen Z respondents) have utilised their smartphones to conduct payments, specifically on the server-based electronic money X. Subsequently, marketers could make their user journey and experience more enjoyable to encourage them in using their products. Nevertheless, digital payment providers that have not incorporated their digital payments in smartphones could expand their product to accommodate the needs of this generation, should they be interested in obtaining the market share from this generation.

7 Limitations and future work

The researcher experienced several limitations in this study, which expectantly could be resolved in future research. Firstly, the division of generations in this study was purely based on when they were born; however, future research could classify older Generation Y and Generation Z into a set of groups, which may provide interesting insights regarding their behaviours. Additionally, even though it was proven in this study that there are several differences between Generation Y and Generation Z, they are still natives of technology. Thus, adding another generation not born into the digital era (e.g., Baby Boomer and Generation X) as a comparison could provide interesting findings for the study.

Moreover, in regards to the heterogeneity of the respondents, future research may include all provinces of Indonesia and include respondents from more diverse backgrounds of the level of education and income. This may improve the representation of the Indonesian market as a whole, which may provide additional information towards the adoption and AU of digital payment instruments.

Lastly, this study did not differentiate the option to choose a debit card or credit card as a frequently used payment method in the survey. Hence, future research could differentiate these payment methods into different options for their respondents, as it may provide a more accurate statistic for the owner and user of debit and credit cards. Additionally, to generate more specific information in future research, it would be best that future researchers compare respondents with a different type of digital payment instruments, subsequently giving more accurate information regarding the difference between respondents' behaviour in each type of digital payment instrument.

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Appendix

Table A1 Five types of digital payment instruments examined in this research

No.	*Type of digital payment instrument*	*Description*
1	Debit card	Card-enabled fund transfer
2	Credit card	Card-enabled fund transfer
3	Server-based electronic money	A prepaid electronic money using internet connectivity that enables the user to conduct transactions online from mobile phones or computers
4	Chip-based electronic money	A prepaid electronic money using a physical card planted with a chip that enables the user to use it to conduct transactions
5	Electronic banking	A service that offers an individual who has a bank account to conduct his/her financial activities using an online service provided by banks which includes phone banking, internet banking, and online banking