SHARIA-COMPLIANT CREDIT CARD EXPOSURE AND UTILISATION IN THE GROWING DIGITAL ECONOMY

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ABSTRACT

Many cashless payment tools have been introduced into the Indonesia market in the form of electronic money cards. The Sharia-compliant credit card is a traditional electronic payment tool, but is provided by only two Islamic finance institutions among the many in Indonesia. The increase in Sharia-compliant credit card transactions over time may mean banks are exposed to non-performing risk. Customer behaviour varies in the use of such cards, and this may cause unpredicted results with regard to card performance. Therefore, the purposes of this study are: 1) to identify the behaviour of Sharia-compliant credit card users and 2) to analyse the factors which influence this behaviour. The primary data were gathered by distributing questionnaires with a total sample of 170 respondents and were analysed by employing structural equation modeling. The research shows that gender, age, and education influence perceived behaviour control, and that expenditure influences subjective norms. Customers' attitudes, subjective norms and perceived behaviour control are proven to influence their intentions, while customers' intentions, perceived behaviour control and income influence their behaviour when using Sharia-compliant credit cards. For further sustainable inclusive growth, issuers should pay attention to education for specific audiences.

I. INTRODUCTION

1.1. Background

The digital economy has shown its affluent in Indonesia. The National Committee for Islamic Finance (KNKS) has stated that its growth has transcended the growth in national income. Digital transactions have been settled 1.69 times higher than the last four years, rising from Rp 49 trillion (USD 3.44 billion) to Rp 132 trillion (USD 9.27 billion). The figures indicate that the cashless era has expanded tremendously, with a single card being able to replace a bundle of fiat money. Cards have been popularised since then.

Before people began utilising electronic money, cards had simplified their daily transactions. Buying groceries, food and beverages, and making online transactions, become simpler and more practical when using a credit card. Furthermore, with the rise in innovation, electronic money became much simpler for use for online transactions. Many people are using electronic money, such as go-pay, rather than cards, because it can be used by simply clicking or tapping on a smartphone.

However, the exposure of credit cards also puts their issuers at risk, and should encourage them to be more prudent. Unlike debit cards or electronic money, whose use is limited and controlled automatically by the balance of the user's account, credit cards can be used up to the limit of the account. Therefore, use of credit cards might get out of control and be prone to non-performance.

In terms of the Weighted net balance of credit card demand, this saw an increase, and credit cards appeared to show the highest demand amongst consumptive financing. A slight slowing down of customers' need for financing in any form occurred in the third quarter of 2017 (Bank Indonesia, 2017). However, due to an increase in the need for financing, the decrease in credit card interest rates, and a more intensive program of promoting credit cards, this figure rose again in the next quarter (Bank Indonesia, 2017), up to 73.6% from the 45.4% of the third quarter, which indicates that demand for credit card increased by 28.2% within three months.
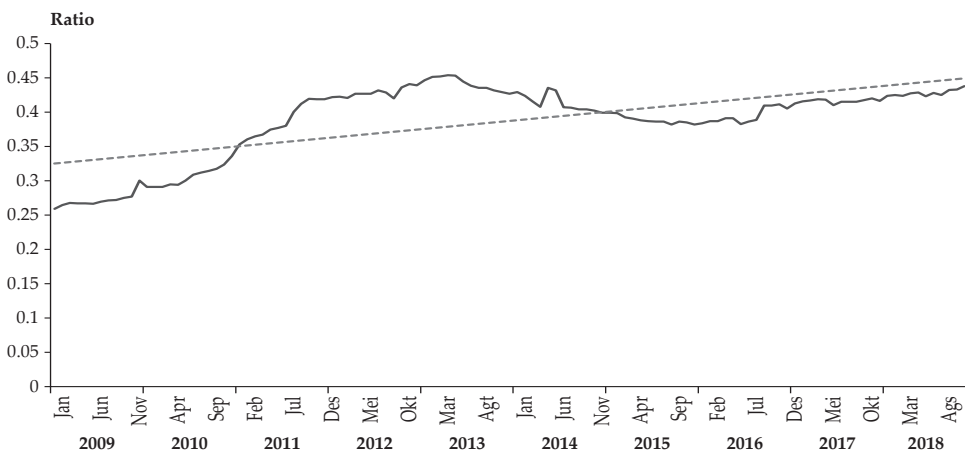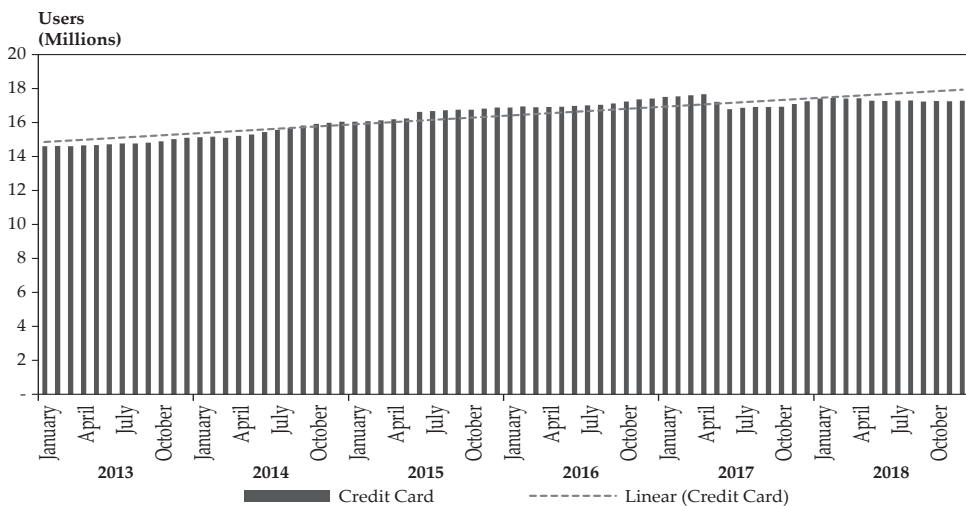

Source: www.ojk.go.id (edited)

Figure 1.
Consumptive Financing Ratio

Figure 1 shows the increasing trend of consumptive financing, specifically in Islamic banking. This phenomenon also indicates that Islamic banks distribution for consumptive purposes was growing. Sharia-compliant credit cards are one type of financing offered by Islamic banks. The *fatawa* of the National Sharia Supervisory Board No.54/DSN-MUI/2006 on Sharia-compliant credit cards strictly imposed some limitations to the card: there must be no *riba*, they must not to be used for non-halal activities, and they must have credit limits. The latest term is primarily objected to the utilization of the card which must not off limit, and therefore users should not spend more than necessary, pay on or before the due date, and deal strictly only with Islamic services.

In Islam, consumers should not spend massively beyond their capabilities to pay. It may fall on excessive consumption (*israf*) or consumptive behaviour. However, credit cards, at some points, are used purposely because customers intentionally do not bring cash with them, or no cash may be available at the moment of transaction (Sayoko et al., 2009).

Sharia-compliant credit cards are provided for customers who avoid dealing with *riba*. They also provide certain facilities, such as easy of use at collaborating merchants and encouraging their holders to be cashless while complying with Islamic principles (DSN MUI, 2006; Sumarto et al., 2011). Another benefit is that Sharia-compliant credit cards do not charge any additional fees for the purchase of products, and any penalties cannot be claimed as providers' revenue, but instead distributed for social purposes; for instance, to build public toilets or to construct public roads.

By reflecting from the *fatawa*, only adults and workers in stable jobs should use the card. 124 million workers who live in Indonesia are the potential target market (BPS, 2018). Another approach to indicating the potential of credit card use is from its holders. One person may hold several credit cards, including an Islamic one (Sayoko et al., 2009). The level of credit card utilisation can be seen in Figure 3.

Source: www.bi.go.id (edited)

Figure 2.
Credit card use in Indonesia

Figure 2 shows an increasing trend in credit card utilisation in Indonesia. In November 2017, a total of around 17 million cards were being used. A year later, in November 2018, this figure had increased to 17.2 million. Bank Indonesia (2018) announced that the fluctuations in credit card existence could be related to their activation and the discipline of users in paying their bills. Those who did not fulfil their obligations would be banned from using credit cards. In order to achieve a sustainable decent economic life, awareness of and discipline in credit card usage should become a priority for their holders, especially in the current 4.0 era. Everything can be done easily by swiping a card, and subscribing the card into the online shopping market.

The volume of credit card transactions executed can be seen in Table 1, which shows that purchases and sales transactions dominate usage in daily life, compared with its use for withdrawing money. The fact that credit cards are used to replace cash is therefore confirmed. The highest level of transactions occurred in December 2018, reaching a total of Rp 30.22 trillion, with the volume of 30.64 million per transaction. Overall, the trend of credit card usage is increasing.

Table 1.
Transaction by Credit Card in Indonesia

Period	Cash withdrawals		Sales-purchase transactions	
	Volume (per transaction)	Nominal (million rupiah)	Volume (per transaction)	Nominal (million rupiah)
Nov-17	689 030	755 101	26 983 117	24 511 453
Dec-17	634 133	691 786	28 590 026	26 535 800
Jan-18	722 614	799 011	28 251 742	25 358 875
Feb-18	627 616	687 698	24 484 745	20 976 292
Mar-18	688 089	755 287	27 289 443	24 795 500
Apr-18	704 942	762 650	27 633 702	24 911 444
May-18	685 988	762 166	28 614 387	26 274 813
Jun-18	525 552	622 266	27 141 547	24 780 132
Jul-18	674 980	756 224	27 639 954	25 981 547
Aug-18	691 425	766 165	26 890 389	25 405 872
Sep-18	662 173	724 932	25 612 394	23 657 612
Oct-18	778 250	851 215	28 901 715	27 184 074
Nov-18	738 395	811 451	27 745 632	26 439 404
Dec-18	702 168	793 681	29 940 025	29 435 754

Source: www.bi.go.id (2019)

Many studies on credit cards have been conducted, such as that of Prabheesh and Rahman (2019), who analysed the macroeconomic aspect. In addition, Junadi and Sfenrianto (2015) and Wulandari et al. (2016) discussed behaviour in the use of e-payment systems in Indonesia, including credit cards. A little bit late, Sari and Rofaida (2011) focused on the behaviour of university students towards the use of credit cards and default debt risk behaviour. However, there has been little discussion of Islamic or Sharia-compliant credit cards in Indonesia. Current research on the subject mostly stresses the Islamic law perspective, or *fiqh* (Firmanda, 2014;

Wahyuningsih, 2016; Mustofa, 2015). Others have used a qualitative approach regarding the use of credit cards (Kristianti, 2014; Sumarto et al., 2011; Rochmawati, 2013). Therefore, there is a research gap regarding behaviour in the use of Sharia-compliant credit cards utilising the empirical quantitative approach.

1.2. Objective

According to the background discussed above, behaviour with regard to the utilisation of Sharia-compliant credit cards needs to be studied further. Therefore, this paper attempts to analyse this topic.

II. LITERATURE REVIEW
2.1. Background Theory

One of the theories that explains the behaviour of humans is that of planned behaviour (TPB), which was developed by Ajzen (1991). The TPB framework attempts to predict and understand human behaviour and is an extension of the theory of reasoned action (TRA) (Ajzen, 1991). TRA was introduced by Fishbein in 1967. According to the theory, the behaviour of individuals is determined by their intention to perform a particular behaviour. This intention is determined by their attitude towards the behaviour, the subjective norm, which indicates the influence of important parties (Xiao, 2008).

Later, the theory of planned behaviour was developed and perceived control was added to the model to determine the intention and the behaviour itself. Based on this model, the theory was then renamed the theory of planned behaviour (Ajzen, 1991). According to this theory, intention is influenced by attitudes towards the behaviour, subjective norms and perceived behaviour controls. In turn, intention influences one's behavioural patterns (Ajzen, 1991; Ajzen & Fishbein, 1980).

Behavioural finance was introduced to explain more detailed phenomena. People are found to mostly behave according to the rational decision model. However, their decisions on finance and markets are sometimes far from being rational and show anomalies that deviate from studies to date (Hens & Riege, 2016). For example, stock prices are 6-7% higher than bonds on average, regardless of the risk-averse characteristics of people. Another example is that credit card holders may only use their card because of their lifestyle or the regular statements that show monthly transactions, despite having enough cash for all transactions made. The term "credit" is then not attached to "not having enough financial resources" so taking external funds.

With regard to Sharia compliance, credit cards must not violate sharia principles: they should not contain *riba*; not be used for *haram* (unlawful) activities; not be used excessively; not being used in excess of one's monthly repayment ability; and not be involved in unlawful services. Otherwise, transactions are lawful and Sharia-compliant credit card holders are allowed to continue using their card throughout the world. This does not apply, however, to local e-money, such as go-pay, DANA or OVO. Therefore, despite its traditional presence, the demand for credit cards is still increasing, especially amongst those who love travelling.

According to Fatawa MUI no. 54 on *Syariah* cards, transactions using Sharia-compliant credit cards comprise three agreements: *kafalah, qardh* and *ijarah. Kafalah* applies to the credit card issuer, who acts as the guarantor of the credit card holder for all transactions made with partner merchants. *Qardh* applies to the credit card issuer, who acts as the creditor, lending all money withdrawn by the credit card holder from ATMs or directly from the issuer (for example, a bank). *Ijarah* applies to membership fees, as the credit card issuer provides supported infrastructures and services for credit card holders.

2.2. Previous Studies

From the macroeconomic aspect, Prabheesh and Rahman (2019) used monthly data from 2006 to 2018 and structural vector autoregressive to indicate that the fast growth of Indonesia's economy in the previous decade had driven credit card usage. However, they also elaborated that the transmission mechanism through the lending channel on monetary policy was weak. This perspective may not be the same if the wide range of Islamic mechanisms which require strong correlation between monetary and real sectors in the economy were included. As Sharia-compliant credit cards are one of these bridging tools, further study is needed.

Junadi and Sfenrianto (2015) elaborated on credit card usage for online transactions. They proposed a model to explain factors influencing customers' intention to use the e-payment system by employing structural equation modelling (SEM). Two external factors were added to the theory of reasoned action for their model: culture and perceived security. Culture relates to customers' habits, while perceived security is associated with the secure e-payment system in Indonesia (a specific country).

Wulandari et al. (2016) studied students' behaviour in using e-money, debit cards and credit cards by employing a decriptive approach. Their results indicated that the 235 student participants at the Faculty of Economics, State University of Malang, were not keen on using debit or credit cards due to the permitted minimum amount of transactions.

Rochmawati (2013) analysed the attitudes, subjective norms, perceived behaviour control, perception of risk, and perception of the benefit of credit cards in relation to the intention to use them. She added two external factors to the predetermined factors in the theory of planned behaviour: perception of risk and perception of the benefits of credit cards. A sample of 81 civil servants at Brawijaya University were studied. The results showed that subjective norms, perception of risk and perception of the benefit of credit cards influenced the intention to use cards.

Sari and Rofaida (2011) studied credit card usage among the Universitas Pendidikan Indonesia (UPI) community. 100 sets of data were collected and analysed, based on the theory of planned behaviour (TPB), and employing SEM. They also added a path between attitude and behaviour. Apparently, it had the greatest influence amongst all the variables on default debt risk behaviour.

Kristianti (2014) analysed Islamic credit cards and the consumptive behaviour of society. She qualitatively studied the specific effect of Islamic credit cards on society' propensity to spend consumptively. The study argued that the filter to

spend on non-halal products was still weak, as society might not aware of what has been bought or consumed. The spending limit might not be strong enough to prevent holders from expanding their consumption behaviour.

Russetyowati (2016) analysed the influence of belief, attitude and income on the intention to use Islamic credit cards. She collected data from all lecturers at the Faculty of Islamic Economics and Business, IAIN, Surakarta. The data were analysed by using multiple linear regression, with the results showing that belief and attitude had a significant influence on the intention to use such cards.

Most behavioural studies employ the theory of planned behaviour, with either original or modified models. Empirical studies on the behaviour related to Sharia-compliant credit card usage are lacking. Many have concentrated on conventional credit cards because there are only two Sharia-compliant cards available. Researchers may have faced difficulties in collecting primary data, while secondary data is not an option.

2.3. Conceptual Framework

According to TPB and previous studies, Figure 3 shows the conceptual model used in this research. Illustration of the conceptual framework is aimed to answer the research questions. Originally, TPB explained behaviour influenced by intention and perceived behaviour control, with intention affected by attitude, subjective norms and perceived behaviour control. However, Ajzen (2005) added personal, social and information background factors for inclusion in his previous model. Due to data limitations, this paper only includes gender, age, education, income, and expense, as suggested by previous studies. A description of each variable will be made in the model and variable development section in the methodology.
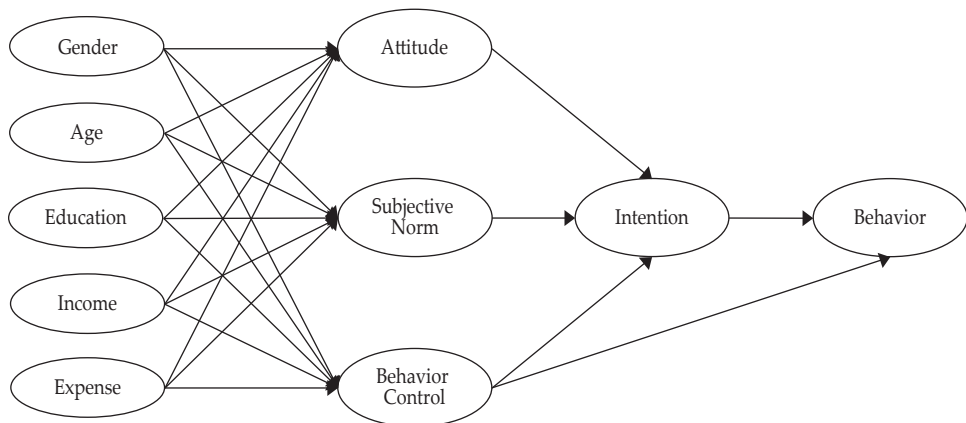
Figure 3.
Conceptual model (SEM)

III. METHODOLOGY

The research was conducted with customers who hold Sharia-compliant credit card and have activated them. It took place from January to March 2019 and both primary and secondary data were used. The secondary data were obtained from the annual financial reports of Islamic banks, Bank Indonesia, journal articles, books and theses. The primary data were obtained by distributing a questionnaire to designated respondents with behaviour associated with the use of Sharia-compliant credit cards and the payment of credit card bills. A 5-point Likert scale was used to indicate respondents' perspectives.

3.1. Data

Convenience sampling was used as the sampling method because the respondents were selected whenever they are accidently found during research period. A total of 170 respondents' data were gathered as samples for the research. This was based on the opinion of Bentler and Chou (1987), that the number of samples that meet the requirements of structural equation modelling (SEM) analysis should have a minimum ratio of the total number of questions in the questionnaires multiplied by five times the indicators that will be observed. Hair et al. (2006) stated that the number of indicators times five should be the minimum data collected (respondents). Since there are 33 indicators, the research should therefore gather at least 165 samples. PLS-SEM was used to analyse the data and therefore SmartPLS 3.0, Ms. Excel and SPSS 23 were used as the tools to run the data.

3.2. Model Development

The endogenous latent variables of Attitude, Subjective Norms, Perceived Behaviour Control, Intention and Behaviour are influenced by exogenous variables. Table 2 gives a description of the variables that were used in this research, accompanied by an operational definition.

Table 2.
Operational Definition of Variables

Latent Variable 1. Attitude		
Description	Indicators	References
Assessment that is made by a person at the moment of seeing or knowing about a behaviour that is performed by another. The assessment could be positive or negative (Sulistomo & Prastiwi, 2011).	A1: trust against the ease of the Sharia- compliant credit card payment system. A2: belief that Sharia-compliant credit card service supports users in using the cards. A3: using a credit card gives a sense of calm due to compliance with Islamic principles and with the guidance of religion and lack of riba. A4: credit cards are used to meet the needs of daily life. A5: Sharia-compliant credit cards are used because they make transactions easy. A6: Sharia-compliant credit cards are one of the right choices for people who want to use a credit card.	Razak et al. (2019); Johan (2018); Lane and Redissi (2016); Appleyard et al. (2016); Russetyowati (2016)

Table 2.
Operational Definition of Variables (Continued)

Latent Variable 2. Subjective Norm		
Description	**Indicators**	**References**
The norm based on other norms that exist around people. Someone who has their own norms is influenced by the surrounding norms (Sulistomo & Prastiwi 2011).	NS1: family influence in the use of Sharia-compliant credit cards. NS2: colleagues who influence Sharia-compliant credit card usage. NS3: friends who influence Sharia-compliant credit card usage. NS4: bank employees who influence the use of Sharia-compliant credit cards. NS5: Islamic services which influence the use of Sharia-compliant credit cards.	Razak et al. (2019); Johan (2018); Luthfiati (2015); Siddik (2017)
Latent Variable 3. Perceived Behaviour Control		
Description	**Indicators**	**References**
The perception that is owned by someone to a behaviour that is done by another person, where the perception of who he believes is the result of controlling himself regarding the perception of such behavior (Sulistomo & Prastiwi 2011)	K1: using Sharia-compliant credit cards is easy. K2: the use of Sharia-compliant credit cards can give peace of mind because they are free from riba. K3: the use of Shariah-compliant credit cards allows me get the benefit of Islamic banks. K4: have enough knowledge in the use of credit cards. K5: have enough ability in the use of credit cards. K6: have enough resources in the use of Shariah-compliant credit cards. K7: excessive use of Sharia compliant- credit cards leads to late payment of bills to the bank.	Razak et al. (2019); Johan (2018); Luthfiati (2015); Priaji (2011); Rochmawati (2013)
Latent Variable 4. Intention		
Description	**Indicators**	**References**
Components that are owned by a person which refer to the desire to display particular behaviours (Parianti et al., 2016.)	N1: intends to use a Sharia-compliant credit card as a means of transaction payment. N2: trys (or considers) to use a Sharia-compliant credit card as means of payment at the time of a transaction N3: plans to use a Sharia-compliant credit card as means of payment at the time of a transaction. N4: intends to use a Sharia-compliant credit card because my colleagues are already using one. N5: intends to use a Sharia-compliant credit card because of the benefits that are provided.	Çokgezen and Kuran (2015); Pambudi (2017)

Table 2.
Operational Definition of Variables (Continued)

Latent Variable 5. Behaviour		
Description	**Indicators**	**References**
Actions performed by a person based on his/ her intention (Abraham& Sheeran, 2017)	P1: use of a credit card in accordance with Islamic Shariah P2: always punctual in paying Sharia- compliant credit card bills. P3: uses Sharia-compliant credit cards up to the maximum limit of use. P4: pays Sharia-compliant credit card bills in full once received. P5: shops with credit cards because already have enough savings in the bank.	Kahf and Mohomed (2016); Sugiarto (2013)
Background Factors		
Description	**Indicator**	**References**
Amount of funding received by respondents over the past month who have been conducting activities such as selling goods or providing services to customers or companies.	PNDPTN: income per month	Malelak et al. (2016); Siddik (2017)
The effort to build a personae through education, as well as building the capability of the respondents.	PNDDKN: level of education	Rita and Kusumawati (2011); Siddik (2017)
Age of the person at the time the data for the study were taken.	AGE: age	Malelak et al. (2016); Siddik (2017)
The amount of funds spent by respondents over the past month to purchase their daily needs.	PNGLRN: expenditure per month	Hunneman, Verhoef, and Sloot (2017); Siddik (2017)
Biological differentiation from birth between women and men.	JK: gender	Melia and Suprapti (2014); Siddik (2017)

3.3. Method

Structural Equation Modelling (SEM) can be used to examine a series of inter-relationships simultaneously. Basically, it combines factor analysis and multiple regression analysis (Hair et al., 2006). The method allows the testing of hypotheses (confirmatory) among latent/construct and observed variables (Byrne, 2009; Hair et al., 2006). It is widely used in social sciences such as education, behaviour and psychology, but it is not limited to economists, biologists, medical researchers and marketing experts (Abduh, 2012).

There are several types of SEM, one of which is partial least squares (PLS). This is a method of analysis whose indicators have ordinal, interval and ratio scale categories, which together confirm presumed theories, as well as explaining the

relationships among latent variables. Hair et al. (2006) suggest at least six stages to comply with the unique terminology and procedures of SEM, but we simplify these into five stages:

1. Define individual constructs.
    At this stage, measurement items (indicators) and measurement scale types (type of data) are defined. Assessment and exploration of the determinants affecting attitude, subjective norm, perceived behaviour control, intention, and behaviour itself are elaborated in subsection 3.2.
2. Develop and specify the measurement model.
    In this research, SmartPLS 3.0 was used to generate algorithms or structural paths. This is a user-friendly modeling package for partial least squares analysis, supported by the University of Hamburg (Germany) scholars' community, School of Business, under Prof. Christian M. Ringle's leadership (Garson, 2016).
3. Design a study to produce empirical research.
    Bootstrapping is used for the resampling method. This method uses the original sample in the research, which is then resampled.
4. Draw a diagram of the line.
    Diagram of the line created to depict the relations between latent variables and their indicators.
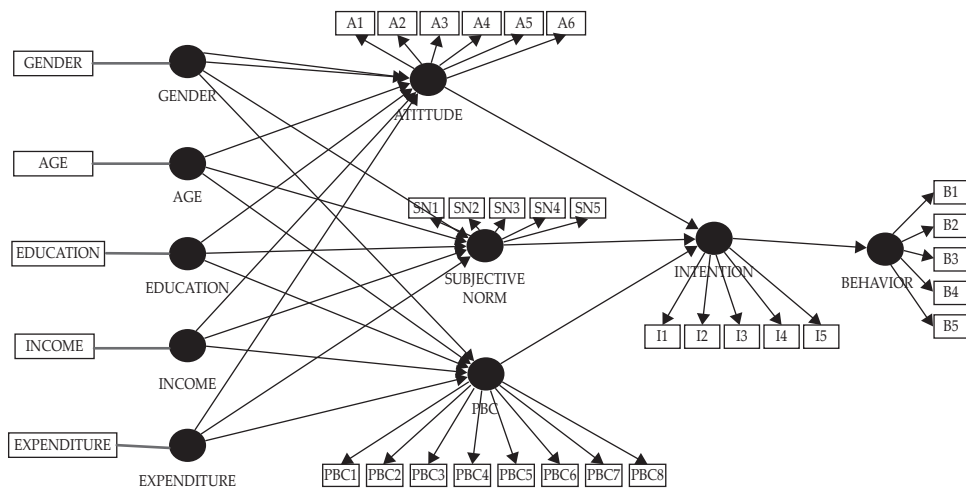
Figure 4.
Relationships between Latent Variables and their Indicators (SEM)

5. Model evaluation
    After drawing a diagram of the path, the model is ready to be estimated and the results evaluated. The evaluation model for the research was made by assessing the outer inner model and model. On the evaluation model of measurement, or the outer model, convergent validity, discriminant validity and composite reliability should be evaluated. On the other hand, in the evaluation of the structural model, or inner model, the measurement includes

the R-square, estimated coefficients of the f-line, square for effect size, and Q-Square.

IV. RESULTS AND ANALYSIS
4.1. Descriptive Statistics
4.1.1. Characteristics of Respondents
The respondents who were the objects of the study were individuals using Sharia- compliant credit cards. There were 170 respondents in total. Out of 255 questionnaires, only 188 were returned, from which 170 qualified for analysis.

According to the general description of the respondents, the results indicate that males dominated women, with 99 respondents (58.2%) and 71 respondents (41.8%) respectively. The largest group of respondents were in the age group 26-35 years old, followed by the 36-45 year old age group, with only four people in the 46 to 50 year old group. Most of the respondents, 90.6%, had graduated from tertiary institutions, compared to 9.4% who had graduated from high school/Madrasah Aliyah/Vocational school.

The average monthly income was at range of Rp 3 million (USD 215) to Rp 5 million (USD 350), represented by 88 people. In addition, the lowest income group, 12 people, was those earning less than Rp 3 million (USD215). Furthermore, regarding average expenditure per month, most respondents, 82 people, spent Rp 3 - 5 million per month, with the smallest group, 12 respondents, spending more than Rp 10 million per month. A detailed profile of the respondents is shown in Table 3.

Table 3.
Profile of Respondents

Indicator	Total	Percentage
Sample	170	100%
Gender:		
Male	99	58.2%
Female	71	41.8%
Age:		
17-25	43	25.3%
26-35	78	45.9%
36-45	45	26.5%
46-55	4	2.4%
Education level		
High school	16	9.4%
University	154	90.6%
Income per month		
< Rp 3,000,000	12	7%
Rp 3,000,000 – Rp 5,000,000	88	51.8%
Rp 5,000,000 – Rp 10,000,000	45	26.5%
>Rp10,000,000	25	14.7%
Expenditure per month		
< Rp 3,000,000	61	35.9%
Rp 3,000,000 – Rp 5,000,000	82	48.2%
Rp 5,000,000 – Rp 10,000,000	15	8.8%
>Rp10,000,000	12	7.1%

4.1.2. Description of Sharia-compliant credit card bill payment behaviour

On average, the respondents trusted the providers of Sharia-compliant credit cards to facilitate the payment system (S1), at a level of 50.6%. 55.3% also trusted the card services to support their users in the use of cards (S2). 47.6% of respondents decided to use a Sharia-compliant credit card because it gave them a sense of calm as it was in accordance with the demands of the religion and avoided the element of usury (S3), while 49.4% agreed that having a Sharia-compliant credit card would enable then to fulfil their needs (S4). In addition, 52.4% stated they used such a card because it could be applied easily (S5). Finally, 50% agreed that a Sharia-compliant credit card was the right choice for people who wanted to use a credit card (S6).

Table 4.
Attitude Indicators

Indicator	Totally disagree	Disagree	Fair	Agree	Totally agree	Total
S1	1.2	1.2	8.8	50.6	38.2	100.0
S2	0.6	2.9	10.0	55.3	31.2	100.0
S3	1.2	2.9	16.5	47.6	31.8	100.0
S4	1.2	3.5	20.0	49.4	25.9	100.0
S5	0.0	1.8	18.2	52.4	27.6	100.0
S6	1.2	1.2	13.5	50.0	34.1	100.0

In term of subjective norms, 32.9% of respondents agreed on their families' influence in using a Sharia-compliant credit card (NS1). 34.1% also believed that colleagues influenced the use of the card (NS2). Other than these two important parties, 32.4% of respondents agreed that friends influenced the use of Sharia-compliant credit cards (NS3), and 32.9% that the social environment had an influence on using such cards (NS4). Finally, on average, 31.2% of respondents strongly agreed that Islamic bank employees influenced the use of these cards (NS5).

Table 5.
Subjective Norm Indicators

Indicator	Totally disagree	Disagree	Fair	Agree	Totally agree	Total
NS1	10.0	20.0	23.5	32.9	13.5	100.0
NS2	5.9	20.6	34.1	27.6	11.8	100.0
NS3	6.5	23.5	32.4	28.2	9.4	100.0
NS4	5.9	18.8	32.9	27.1	15.3	100.0
NS5	4.7	10.0	25.9	28.2	31.2	100.0

Regarding perceived behaviour control, 45.9% of respondents agreed that using a Sharia-compliant credit card was an easy behavior to perform (K1). 41.2% also agreed that using such a card could give peace of mind because it is free from

riba (K2). Meanwhile, 52.4% of respondents agreed that a Sharia-compliant credit card provides a convenient payment system (K3). 52.9% believed that Islamic banks provide good services (K4), while 45.3% of respondents agree that they had enough knowledge to use their card (K5).

Table 6.
Perceived Behavioural Control Indicators

Indicator	Totally disagree	Disagree	Fair	Agree	Totally agree	Total
K1	1.8	1.2	18.2	45.9	32.9	100.0
K2	1.8	2.9	20.0	41.2	34.1	100.0
K3	1.2	1.2	12.9	52.4	32.4	100.0
K4	1.2	1.8	21.8	52.9	22.4	100.0
K5	2.4	4.7	22.9	45.3	24.7	100.0
K6	1.2	1.8	19.4	50.6	27.1	100.0
K7	0.0	3.5	23.5	47.6	25.3	100.0
K8	9.4	10.0	21.2	38.2	21.2	100.0

50.6% respondents agreed they had enough ability to use the Sharia- compliant credit cards (K6), while 47.6% stated they had enough resources to use them (K7). In addition, 38.2% of respondents agreed that excessive card use may lead to late payment of bills to the provider (K8).

With regards to intention, 53.5% of respondents agree on their intention to use a Sharia-compliant credit card as a means of payment in transactions (N1). Half agreed they considered using a Sharia-compliant credit card as a first thought as a means of payment when making transactions (N2). Meanwhile, 45.9% of respondents stated they planned to use their card as a means of payment when making transactions (N3), while 42.9% also stated their intention to use a card because their partner had used one (N4). Finally, 40% of respondents agreed that they intended to use a Sharia-compliant credit card because of the immense benefits offered (N5).

Table 7.
Intention Indicators

Indicators	Totally disagree	Disagree	Fair	Agree	Totally agree	Total
N1	0.6	3.5	16.5	53.5	25.9	100.0
N2	0.6	2.9	17.6	50.0	28.8	100.0
N3	1.8	1.2	20.0	45.9	31.2	100.0
N4	4.1	8.2	24.7	42.9	20.0	100.0
N5	3.5	4.1	30.6	40.0	21.8	100.0

45.9% of respondents agreed that use of a Sharia-compliant credit card was consistent with Islamic principles (P1). 45.9% also claimed that they were always on time when paying credit card bills (P2). 32.9% of respondents stated they used

their card up to the maximum usage limit (P3), while 39.4% respondents said they paid their card bill in full (P4). Finally, 40.6% of respondents agreed that theu used their card because they had sufficient savings back-up in the bank (P4).

Table 8.
Behaviour Indicators

Indicator	Totally disagree	Disagree	Fair	Agree	Totally agree	Total
P1	0.6	6.5	18.8	45.9	28.2	100.0
P2	0.6	1.8	17.5	44.9	35.3	100.0
P3	5.3	17.1	32.9	22.9	21.8	100.0
P4	0	4.1	24.7	39.4	31.8	100.0
P5	1.8	3.5	23.5	40.6	30.6	100.0

4.2. SEM-PLS Results

The SmartPLS program was used in the data analysis of the model and consisted of two stages, namely evaluation of the measurement, or outer model, and evaluation of the structural, or inner model.

After a series of model tests had been conducted on the original data, several insignificant variable paths were found. Therefore, modification of the original model was needed to improve the variable paths so that they became significant. The income variable had a significant direct relationship with behaviour, so path modification was performed, as evidenced by certain studies. Modification of the path of the relationship between income and behaviour was then made, so that they were directly related. The results shows that it then became significant. Evaluation of the modification model began with the latent variables and their indicators.
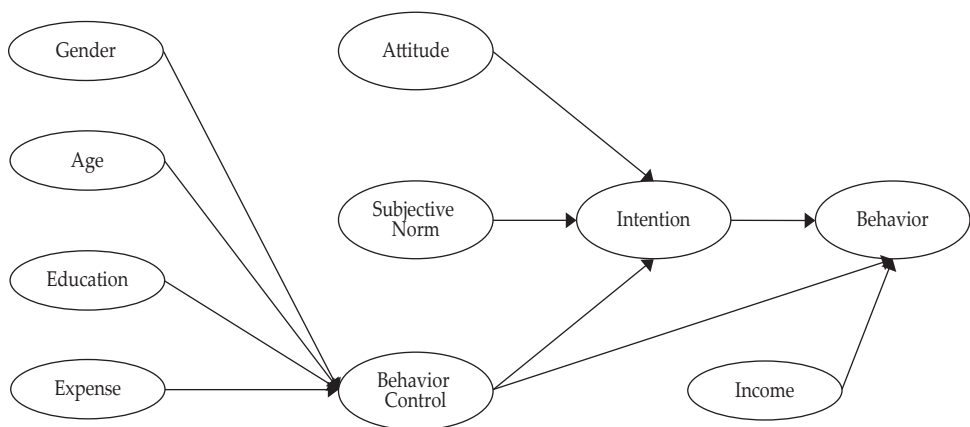
Figure 5.
Modified model (SEM)

4.2.1. Modified Measurement Model Evaluation (*Outer Model*)

Evaluation of the measurement model, or modified outer model, was now made in the same way as the original model.

1. Communalities
Communality testing was conducted for each indicator of a latent variable. The indicators tested had to meet the requirements of the communality, which is more than 0.5 (Ghozali et al., 2011). If the communal value is less than 0.5, the requirements of the indicator are not met, so that it must be removed from the model test. All the communal values in the modification model met the requirements, so the model can be said to be a good fit.

2. Convergent Validity
Convergent validity is valid when the value of the loading factor is above 0.7. However, a value of 0.5 to 0.6 can still be accepted (Ghozali et al., 2011). The loading factor is a correlation between the indicator and the latent variable. The higher the value, the better the level of validity of correlation possessed by the indicator.

The perceived behaviour control variable is highly represented by the indicator of having enough resources to use Sharia-compliant credit cards (K6), with a loading factor value of 0.846. For the intention variable, the indicator of considering to use a Sharia-compliant credit card as the very first thought as a means of payment when making transactions (N2) has a loading factor of 0.895, the highest value. In addition, the subjective norm variable is highly represented by the influence of friends in using a Sharia-compliant credit card (NS3), with a value of 0.911. The behaviour variable is highly indicated by sufficient savings back-up when shopping with Sharia-compliant credit cards (P5), with a loading factor value of 0.857. Finally, the attitude variable is most highly represented by indicator of ease of use of Sharia-compliant credit cards (S5), with a value of 0.829.

The loading factors for each indicator in the modified model have values above 0.5, so it can be concluded all meet convergent validity. Moreover, the AVE value of each variable is above 0.5, which means that all the variables in the modification model also meet convergent validity.

3. Discriminant Validity
Discriminant validity is said to be good if the indicators associated with the latent variables have a higher correlation value than that of the other latent variables. From the results, it can be concluded that the discriminant validity value possessed by each indicator is good.

4. Composite Reliability
From the results, it can be concluded that all the variables have composite reliability values and Cronbach's alpha above 0.7. It can therefore be concluded that the variables have good reliability, with the composite reliability value and smallest Cronbach's alpha being 0.841 and 0.743 respectively for the behaviour variable.

5. Standardised rootmean square residual (SRMR)
The study model has an SRMR value of 0.068, so it can be said to be a good model.

4.2.2. Modified Structural Model Evaluation (*inner model*)
1. Path analysis
The relationship between perceived behaviour control and behavior shows the highest t-value, at 4.544. On the other hand, the smallest t-statistic value is presented for the path from age to perceived behaviour control, at 1.925.

2. R-square test
The R-square value is used to explain whether there is an influence from exogenous on endogenous variables. The results of the modified R-square test can be seen in Table 11.

Table 11.
R-square

Variable	R-square
Perceived Behaviour Control	0.085
Intention	0.532
Subjective Norm	0.039
Behaviour	0.522

The R-square value of the behaviour variable is 0.522, which means that the variables of intention, perceived behaviour control and income are simultaneously able to explain its influence on the behaviour variable by 52.2%, while 47.8% is explained by other variables outside the studied model. The intention variable has a R-square value of 0.532, which means that the variables of attitude, subjective norms and perceived behaviour control are simultaneously able to explain its influence on intention by 53.2% while 46.8% is explained by other variables outside the model studied.

3. Q-square
Besides R-square, Q-square is assessed in the evaluation of modified structural models as a predictive relevance which serves to measure the quality of the observations in the model and to estimate parameters (Ghozali, 2014). From Table 12, it can be concluded that the value of all variables has a good predictive relevance, because the Q-square value is greater than zero.

Table 12.
Q-square Predictive Relevance

Variable	Q²
Gender	1.000
Perceived behaviour control	0.512
Intention	0.533
Subjective norm	0.481
Income	1.000
Education	1.000
Expenditure	1.000
Behaviour	0.318
Attitude	0.482
Age	1.000

4. F-square for effect size

The function size effect to predict the effect of a variable on other variables in the model structure is tested through the f-square. An f-square for effect size that has a value of 0.02 is said to have little influence, with 0.15 for intermediate influences and 0.35 for large influences (Ghozali & Latan, 2014). The f-square value of the modified model is summarized in Table 13.

Table 13.
f-*square* for Effect Size

Path	f-*square* for effect size		
	R-*square* in	R-*square* ex	f-square
JK-K	0.09	0.062	0.025
AGE-K	0.09	0.068	0.02
PDDKN-K	0.09	0.034	0.056
PNGLRN-NS	0.04	0	0.041
S-N	0.53	0.477	0.118
NS-N	0.53	0.495	0.079
K-N	0.53	0.476	0.120
K-P	0.52	0.45	0.151
N-P	0.52	0.444	0.163
PNDPTN-P	0.52	0.51	0.025

5. Goodness of Fit (GOF) index

The GOF index serves to evaluate measurement and structural models and to provide simple measurements for overall model predictions. Calculations from the GOF index are as follows:

$$GOF = \sqrt{\overline{Com} \times \overline{R^2}}$$
$$GOF = \sqrt{0.682 \times 0.2945}$$
$$GOF = 0.4483$$

Since the communality value recommended by Fornell and Larcker (1981) is 0.50 and the R-square value recommended by Cohen (1988) in Ghozali and Latan (2014) is 0.02 for a small R-square, 0.13 for a medium R-square and 0.26 for a large R-square, therefore:

GOF small= $\sqrt{0.5{\times}0.02}$ = 0.10
GOF medium= $\sqrt{0.5{\times}0.13}$ = 0.25
GOF large= $\sqrt{0.5{\times}0.26}$ = 0.36

The GOF index value obtained in this study, which is equal to 0.4483, has a high GOF value, so it can be concluded that if the model in this study is strong it is able explain the researched variables and to validate the overall model in a good manner and that the influence of the variables included in the category are vigorous. Figure 6 shows the final model diagram, which will be discussed in the discussion section.
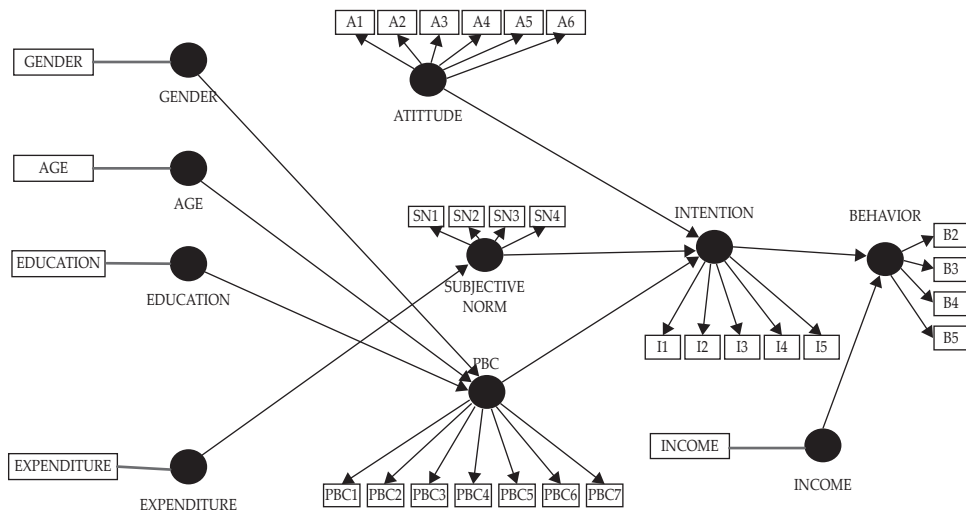
Figure 6.
Final model

4.3. Analysis

The results of the outer model evaluation show that the measurement model has met the requirements, so it is possible to continue to evaluate the structural model. After evaluating the inner model by following several measurement steps, namely the path coefficient, R-square, f-square, Q-square and GOF index, the results will be interpreted in order to answer the research questions and hypotheses that were formulated in the literature review. In addition, the following path coefficients will be interpreted following Table 14.

Table 14.
Modified Path Coefficients

Path	Original Sample (O)	T-Statistic	P Value	f-square for effect size
Gender -> Perceived Behaviour Control	-0.151	2.048	0.041	0.025
Education -> Perceived Behaviour Control	0.230	2.337	0.020	0.056
Age -> Perceived Behaviour Control	-0.132	1.867	0.062	0.02
Perceived Behaviour Control -> Intention	0.355	4.120	0.000	0.120
Subjective Norm -> Intention	0.203	3.455	0.001	0.079
Attitude -> Intention	0.338	4.077	0.000	0.118
Expenditure -> Subjective Norm	-0.197	2.580	0.010	0.041
Perceived Behaviour Control -> Behaviour	0.388	4.391	0.000	0.151
Intention -> Behaviour	0.399	4.054	0.000	0.163
Income -> Behaviour	-0.124	2.044	0.042	0.025

4.3.1. Influence of gender on attitude, subjective norm and perceived behaviour control of using Sharia-compliant credit cards.

Only the path of gender to perceived behaviour control is significant, at 2.089 or ≥ 1.65. Research conducted by Melia and Suprapti (2014) found that gender did not have a significant relationship with the behaviour of the exchange of credit card reward points. In addition, the results of the path coefficient and f-square for effect size indicate that gender has a negative and small effect on perceived behaviour control; that is, if a male (=0; female=1) has a Sharia credit card, his perceived behaviour control will increase, further affecting the use of Sharia-compliant credit cards. Males are perceived to be more self-controlled in the use of credit cards. Ali et al. (2017) found that there were fewer male cardholders than female ones in Saudi Arabia. Moreover, Di Clemente et al. (2018) found that males outnumbered females in credit card usage at petrol stations, restaurants, on computer networks and/or information services and at miscellaneous food stores.

4.3.2. Influence of age on attitude, subjective norm and perceived behaviour control of using Sharia-compliant credit cards.

Only the path of age to perceived behaviour control is significant, at 1.942 or ≥ 1.65. The results of the path coefficients and f-square for effect size show that age had a small and negative effect on perceived behaviour control; that is, an increase in age would decrease perceived behavior control, which would then affect the use of Sharia-compliant credit cards. This result is consistent with those of Malelak et al. (2016), who found that age had a significant influence in a negative direction, which indicated that the younger the users, the more productively and wisely they would use credit cards.

4.3.3. Influence of education on attitude, subjective norm and perceived behaviour control of using Sharia-compliant credit cards.

Only the path of education towards perceived behaviour control is significant, at 2.331 or ≥ 1.65. The results of the path coefficients and f-square for effect size indicate that education has a positive and small effect on perceived behaviour control; that is, the higher the education a person has, the more their control over the perception of using a Sharia-compliant credit card will increase. The research conducted by Rita and Kusumawati (2011) found that education had a significant negative effect, meaning that the higher a person's education, the lower their use of Sharia-compliant credit cards.

4.3.4. Influence of income on attitude, subjective norm and perceived behaviour control of using Sharia-compliant credit cards.

Income has no influence on attitude, subjective norm or perceived behaviour control, as shown by the insignificant value of all three paths. Therefore, the income path was modified, as allowed in PLS-SEM analysis, and connected to the behaviour variable, which produced a significant path coefficient with a t-test value of 2.143 > 1.65. The results from the f-square test show a negative and small effect; that is, the higher a person's income, the lower the use of Sharia-compliant credit cards. However, the study by Malelak et al. (2016) found that those with higher incomes would sequence be balanced by increasing the fulfillment of needs, so this would increase the use of credit cards. The argument regarding the negative effect may reflect the increasing utilisation of other modes of payment, such as e-money, QR-coded money, or even cash when income increases.

4.3.5. Influence of expenditure on attitude, subjective norm and perceived behaviour control of using Sharia-compliant credit cards.

Only the value of the expenditure t-test towards subjective norm is significant, at 2.462 or ≥ 1.65. The results of the path coefficients and f-square for the effect size suggest that expenditure has a negative and small effect on subjective norm, which means that the higher the expenditure, the lower the influence of the surrounding people on using Sharia-compliant credit cards.

4.3.6. Influence of positive customer attitude on intention to use Sharia-compliant credit cards.

It was found that the value of the attitude t-test on intention to use Sharia credit cards was 3.867, or ≥ 1.65. This means that attitude significantly influences the intention to use Sharia credit cards. The results of the path coefficients and f-square for effect size show that attitude has a positive and small effect on intention. The more positive the attitude of the customer, the greater their intention to use Sharia-compliant credit cards. In a study conducted by Russetyowati (2016), attitude had a positive and significant effect on interest in using Sharia credit cards, which means the more positive a person's attitude towards Sharia credit cards, the stronger their intention to display the behaviour which would finally affect use of such cards.

4.3.7. Influence of Positive Subjective Norm on the Intention to use Sharia Compliant Credit Cards.

In the subjective norm path coefficient towards intention, the t-test value was 3.526, or ≥ 1.65. This means that subjective norm has an effect on the intention to use Sharia-compliant credit cards. The results of the path coefficient and f-square for effect size indicate that subjective norm has a positive and small effect on intention; the more significant the parties influencing the use of such cards, the greater their influence on intention. Intention will later influence behaviour in using Sharia- compliant credit cards. This is in accordance with the research conducted by Rochmawati (2013), whose results showed that subjective norm had an influence on the intention to use credit cards. However, different results were obtained in research conducted by Rita and Kusumawati (2011), who found that subjective norm did not affect the use of credit cards.

4.3.8. Positive Effect of Perceived Behaviour Control on the Intention to use Sharia-compliant Credit Cards.

On the perceived behaviour control path coefficient towards intention, it was found that the value of the t-test was 3.813, or ≥ 1.65. This means that perceived behaviour control has an effect on the intention to use Sharia credit cards. The results from the path coefficients and f-square for effect size show that perceived behaviour control has a positive and small effect on intention. This is different from research conducted by Rochmawati (2013), who found that perceived behaviour control did not affect the intention of individuals to use credit cards. However, the study conducted by Lestari et al. (2017) found that perceived behaviour control did have an effect on the interest to own credit cards.

4.3.9. Positive Effect of Perceived Behaviour Control on Behaviour when using Sharia-compliant Credit Cards.

The value of the t-test was 4.455, or ≥ 1.65. This means that perceived behaviour control has an effect on the behaviour of using Sharia-compliant credit cards. The results of the path coefficients and f-square for effect size show that perceived behaviour control has a positive and intermediate influence on behaviour, which indicates that the higher the effect of perceived behaviour control, the higher the proportional direct effect on the behavior of using Sharia cards. This is consistent with the study conducted by Kennedy (2013) of student use of credit cards, which found that perceived behaviour control had an influence on behaviour, with students predicting their assumption that they had high control over the ability to refrain from using credit cards.

4.3.10. Positive Influence of Intention on the Behaviour of using Sharia Compliant Credit Cards.

In the intention path coefficient towards behaviour, the value of the t-test was 4.025, or ≥ 1.65. This relationship means that intention has an effect on the behaviour of using Sharia-compliant credit cards. From the results of the path coefficients and

f-square for effect size, it was found that intention has a positive and intermediate influence on behaviour, which reflects that the greater someone's intention to use a Sharia-compliant credit card, the stronger the proportional direct effect on their behavior to do so. This is consistent with the research conducted by Kennedy (2013), which showed that the intention of students to use credit cards was able to predict the amount of debt incurred.

V. CONCLUSION AND RECOMMENDATION
5.1. Conclusion
Attitude, which is represented by respondents' belief that Sharia-compliant credit card services facilitate the payment system; subjective norm, which is represented by partners' influence on the use of such cards; perceived behaviour control, which is reflected by providers' card services; intention, which is indicated by Sharia cards' role as a transaction tool; and behaviour, which is reflected by cards' compliance with Sharia, are the indicators which contribute the highest values to their variable. Each indicator has a sufficiently strong influence to build its variable.

The results of the study support the theory of planned behaviour (TPB) model, with additional demographic factors. The factors used were gender, age, education, income and expenditure. Each demographic factor influences the latent variables in the theory of planned behaviour: gender has a significant effect on perceived behaviour control; age has a significant and positive effect on perceived behaviour control; expenditure has a negative and significant influence on subjective norm; attitude has a positive effect on intention; subjective norm also has a positive effect on intention; perceived behaviour control has a positive effect on someone's intention as well as their behaviour; and income has a negative and significant effect on behaviour associated with the use of Sharia-compliant credit cards.

The limitations of this study are that it uses a non-probability sampling method. In addition, it is recommended that further research should add more indicators so that they better represent the actual conditions of behaviour in using Sharia-compliant credit cards.

5.2. Recommendation
Islamic banks should educate the specific targeted audiences that have been found in this research. For further sustainable inclusive growth and to promote better understanding, issuers should pay attention to their targeted audience, to the services offered regarding Sharia-compliant credit cards, to the influence of customers' partners; and to education regarding Sharia cards as a medium of transaction. The targeted audience is young men who have completed higher education. Credit card providers need to increase intensive education at the targeted audience's workplace, as this research has found that partners have the most influence on behaviour in using Sharia-compliant cards.

Promoting and educating about Sharia cards to customers is highly recommended, particularly in relation to the use of cards within the Sharia framework, especially it has now been quite outdated or traditional in digitizing world where its media of transaction counterparts have also been widely

introduced to the society. In particular, the study has found that higher income customers have started to abandon their cards for other transaction media, which can be interpreted as positive as well as negative, depending on the point of view. Other than the users, Islamic banks need to provide better services to Sharia credit card users to avoid unexpected moral hazards.

Future studies should use data collection methods with probability sampling in order for them to be generalised. In addition, further research is recommended to add external variables that have not been included in this study, such as security risks or the benefits of using a Sharia-compliant credit card. Finally, further studies are also encouraged to add internal indicators such as perceptions of accessibility, which may strengthen the concept of the behaviour of using Sharia-compliant credit cards.

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