

Impact of attitude, subjective norms, and perceived behavioural control on intention to invest in retail green sukuk among Muslim millennials in Jabodetabek

Muhammad Ananda Ikhsan  & Ries Wulandari 

Prodi Studi Ekonomi Syariah (S1), Institut Agama Islam Tazkia, Bogor, Indonesia

ABSTRACT

Introduction

Retail green sukuk is an environmentally friendly investment option for millennials. However, there have not been many studies related to this in the context of millennials in big cities in Indonesia.

Objectives

This research aims to analyse the impact of attitude, subjective norms, and perceived behavioral control in intention to invest in retail green sukuk among Muslim millennials in Jabodetabek.

Method

This research uses the PLS-SEM (Partial Least Square Structural Equation Modeling) which presents the results of regression analysis relating to testing the relationship between endogenous and exogenous variables. A total of 183 Muslim millennials participate in this research by fulfilling an online questionnaire.

Results

The results of this research show that these three variables significantly influence Green Sukuk investment interest among Millennial Muslims in Jabodetabek, with a significance value of attitude of 0.669, subjective norm of 0.213, and perceived behavioral control of 0.030.

Implications

Governments or other corporations issuing retail green sukuk instruments should focus more on promoting their green initiatives. This will create a positive attitude among millennial investors toward Retail green sukuk instruments.

Originality/Novelty

This study provides insights into the intention to invest in environmentally friendly financial product among Muslim millennials living in large cities in Indonesia.

CITATION: Ikhsan, M. A. & Wulandari, R. (2024). Impact of attitude, subjective norms, and perceived behavioural control on intention to invest in retail green sukuk among Muslim millennials in Jabodetabek. *Journal of Islamic Economics Lariba*, 10(1), 149-168. <https://doi.org/10.20885/jielariba.vol10.iss1.art9>

JEL Classification:

D24, D31, L10, Z12

KAUJIE Classification:

H34, M42, I7

ARTICLE HISTORY:

Submitted: January 30, 2024

Revised: March 2, 2024

Accepted: March 2, 2024

Published: March 6, 2024

KEYWORDS:

attitude, intention to invest, Muslim millennials, perceived behavioural control, retail green sukuk, subjective norms

COPYRIGHT

©

2024

Muhammad Ananda Ikhsan & Ries Wulandari. Licensee Universitas Islam Indonesia, Yogyakarta, Indonesia.

Contact: Muhammad Ananda Ikhsan  ikhsanananda580@gmail.com

This is an Open Access article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) License (<https://creativecommons.org/licenses/by-sa/4.0/>).

PUBLISHER'S NOTE: Universitas Islam Indonesia stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

INTRODUCTION

Climate change, such as droughts and forest fires predominantly caused by increasing greenhouse gas emissions annually, necessitates swift mitigation efforts (Hania et al., 2022). Indonesia, a developing country in Asia, is not immune to these challenges, facing a worrisome surge in carbon dioxide (CO₂) emissions, increasing significantly in the last few years (Kurniarahma et al., 2020; Zulaicha et al., 2020). Acknowledging this alarming increase, the Indonesian government has formulated the 2020–2024 National Medium Term Development Plan (Rencana Pembangunan Jangka Menengah Nasional abbreviated RPJM in Bahasa Indonesia), encompassing seven national development agendas. Two of these agendas focus on strengthening infrastructure to support economic development and services in the market, and building resilience to uncertain disasters and climate change, aiming to realize a prosperous, just, and sustainable middle-income Indonesia (Hapsari et al., 2021; Kusriyah & Witasari, 2024).

Sustainable financing is one of the best strategies to reduce the surge in CO₂ emissions. This financing option is considered a forefront initiative to create an environmentally friendly economy by channeling funds into low-emission infrastructure development, including Smart Grid and energy efficiency projects, playing a crucial role in shaping a low-emission environment (Saeed Meo & Karim, 2022). Not only governments companies or corporations can also contribute to supporting sustainable financing as a responsibility to the environment. Corporate responsibility extends beyond shareholders to involve a broader spectrum, including impacted communities and the environment (Banerjee, 2018; Berger-Walliser & Scott, 2018; Su et al., 2018). Furthermore, the increasing awareness and stronger interest in environmental protection, prompting investors and financial institutions to prioritize sustainable financing for investment activities (Gilchrist et al., 2021; Kumar et al., 2022; Zhan & Santos-Paulino, 2021). Therefore, this research is crucial to better understand the factors influencing retail investors' interest in investing in institutions, whether state-owned or private corporations, implementing environmentally friendly investments, ensuring market sustainability through active participation from institutional and retail investors.

It is worth noting that the interest in purchasing Green Sukuk is still relatively small compared to Indonesia's population (Karina, 2019; Pujiantoro et al., 2021). However, millennials constitute the largest group of investors in Green Sukuk series ST009, accounting for 19,075 investors or 53.89% of the total 35,397 investors, with a purchase value of Rp. 3.7 trillion or 37.02% of the total sales. In terms of the proportion of the number of investors to the total number of investors and the proportion of nominal orders to the total order value, millennial investor participation in the issuance of series ST009 is the highest in the history of Retail Green Sukuk issuance (Kementerian Keuangan Republik Indonesia, 2022). According to the National Survey of Financial Literacy and Inclusion (*Survei Nasional Literasi dan Inklusi Keuangan* abbreviated SNLIK in Bahasa Indonesia) in 2022, the Jabodetabek region significantly ranks with an

average literacy percentage of 52.99% and an average financial inclusion percentage of 90.22% (Otoritas Jasa Keuangan, 2022). This aligns with the government's goal to encourage millennial investors to be both intelligent and environmentally conscious (Halim et al., 2022; Simamora, 2022). The issuance of series ST009 is a form of sustainable financing or Retail green sukuk. Among various investment instruments, Retail green sukuk series ST009 is one of the most favored by millennials, although it is still relatively new in Indonesia (Sudaryanti et al., 2011). Hence, the current research examines interest in Retail green sukuk investment.

Research on environmental-friendly investment intentions is not new. Osman et al. (2019) used the Theory Planned of Behavior (TPB) to measure the decision of Malaysian society to invest in Green Sukuk instruments. Prasetya et al. (2022) also used the TPB to measure millennial investor attitudes toward investing in regular sukuk instruments. Meanwhile, other studies found that investing in companies implementing environmentally friendly initiatives is crucial for ensuring sustainable economic growth (Khan et al., 2022; Nagaty, 2022; Waris et al., 2024; Zahan & Chuanmin, 2021).

However, related research on this topic is still very limited, especially in Indonesia. Retail green sukuk is the first environmentally friendly financing instrument issued by Indonesia globally in 2018, becoming a significant instrument for the progress of the Islamic financial industry, particularly concerning the environment in Indonesia. Hence, further exploration is still required. This study will specifically evaluate the investment intentions of Muslim millennials in Retail green sukuk instruments and the influencing factors.

LITERATURE REVIEW

The relationship between financial development, economic growth, and environmental degradation has become a crucial concern for policymakers and environmental advocates. Therefore, this section presents a literature review on the investment intentions of Retail green sukuk, focusing on the motivating factors and influences on these intentions. Retail green sukuk is a term within sustainable financing, encompassing socially responsible investing (SRI), environmental social governance (ESG), long-term sustainable investments, and similar concepts (Doval & Negulescu, 2014; Inderst et al., 2012). This instrument was first issued in March 2018, marking the first occurrence in Asia (Abdurrochim, 2019; Kementerian Keuangan Republik Indonesia, 2020).

Green sukuk represents a new breakthrough in financial instruments issued in accordance with Islamic law as a response to the growing green economy (Morea & Poggi, 2017). Funds from Green Sukuk sales are allocated to support government-defined green projects in Indonesia (Sudaryanti et al., 2011). Additionally, green investment strategies within the Islamic economy can be an effective and sustainable solution to address global economic challenges (Syaichoni, 2023).

As discussed earlier, the involvement of the Millennial generation plays a crucial role in Retail green sukuk investment. There is an urgent need for significant

government involvement in enhancing the competencies of human resources and the demographics of the younger generation through various policies and regulations. Unlike previous generations, millennials exhibit characteristics more aligned with technology, which significantly influences their behavior and decision-making processes (Musahidah & Sobari, 2021).

This research is based on the Theory of Planned Behavior (TPB) proposed by Ajzen (1991) as the framework. TPB is commonly used to investigate pro-environmental behavior, aligning with the main goal of this research, which is to explore motivating factors influencing the interest in investing in Retail green sukuk. Previous studies have tested the TPB model, confirming its suitability due to its strong explanatory capacity for predicting intentions (Wan et al., 2017). TPB is widely recognized and extensively used in environmental studies (Ahmed et al., 2021; Ateş, 2020; Lucarelli et al., 2020; Yuriev et al., 2020). Following Ajzen's (1991) recommendations, Attitude, Subjective Norms, and Perceived Behavioral Control are significant determinants of behavior intentions.

In TPB, the key factors influencing the tendency to engage in specific behaviors are individual attitudes (Attitude), subjective norms (Subjective Norms), and perceived behavioral control (Perceived Behavioral Control) (Ajzen, 1987, 1991). TPB argues that behavioral intention directly precedes actual behavior. Ajzen (1991) asserts that individuals intend to perform a behavior when they have a positive evaluation of that behavior, receive positive societal feedback, find it useful, and perceive many opportunities for its application. Finally, behavioral intention is considered internalized from anticipated pros and cons related to the upcoming behavior. Ajzen emphasizes that behavioral intention serves as the driving force behind the implementation of intended behavior (Ajzen, 1985, 1987).

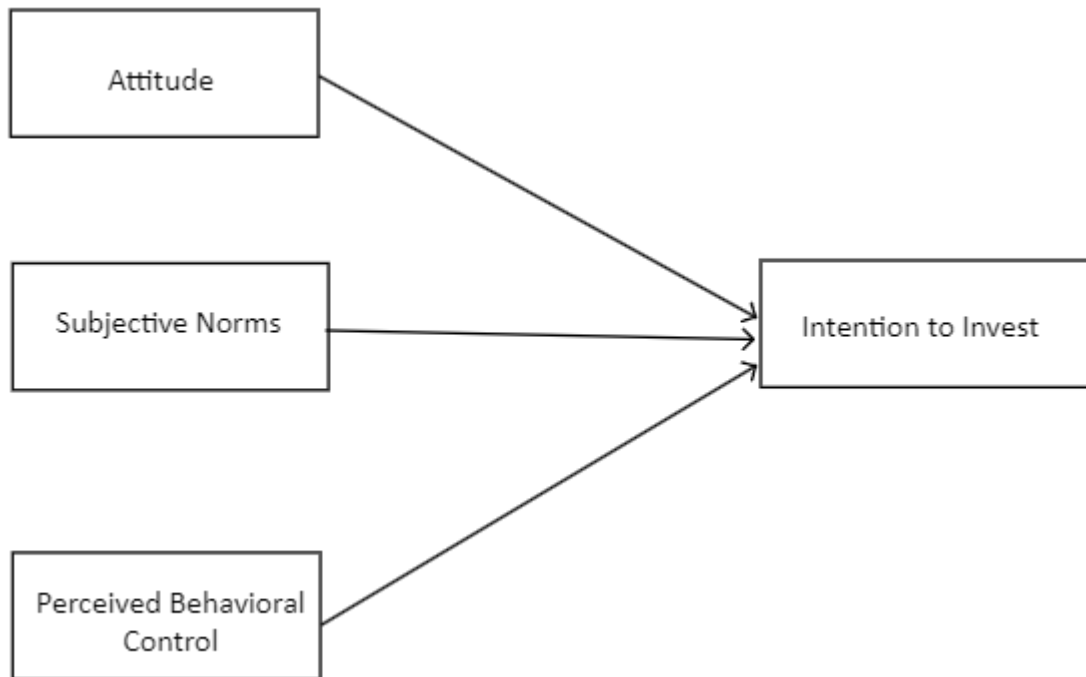
Attitude represents an expression of thoughts or feelings towards someone or something reflected in an individual's behavior. This attitude is shaped by a person's beliefs about the outcomes of their actions and their reactions to the results of that behavior (Cordano & Frieze, 2000). Therefore, the attitude toward a particular behavior involves an action related to that behavior with beliefs about specific outcomes of the actions taken (Ajzen, 1991). In the context of pro-environmental behavior, attitudes toward that behavior include an individual's feelings or thoughts about engaging in environmentally friendly activities (Z. Wang et al., 2011). Essentially, a positive attitude toward environmental issues increases the likelihood of someone engaging in environmental protection actions. Increasing environmental pollution and energy security challenges highlights the positive impact of attitudes on behavioral intentions, as evidenced in the case of new energy vehicles (Goh et al., 2017; Z. Wang et al., 2017).

This review focuses on studies applying the TPB model (Ajzen, 1991; Tan et al., 2017). Social norms are another influential factor connecting individual intentions with their behavior (Fong & Wong, 2015). The tendency to engage in a particular behavior is strongly influenced by perceived pressure from one's social environment (Ajzen, 1991). Essentially, this involves an individual's decision to engage in a particular behavior

under the influence of societal expectations (Valtonen et al., 2015). Subjective norms in this context refer to various external forces that can influence an individual's intention to invest or not invest in Retail green sukuk instruments (Majid & Maulana, 2023). Similarly, Scalco et al. (2017) describe an individual's belief in how important others think they should perform or refrain from an action. Certainly, in the field of investment in products adopting innovation, this is crucial (Awn & Azam, 2020). This proportion is evidenced by the fact that subjective norms are the most researched variable in terms of innovation adoption (Kalinic & Marinkovic, 2016). Specifically, subjective norms are expected to influence the interest in investing in Retail green sukuk instruments. Thus, a high level of interest in investment will be a significant influence (Han et al., 2010; Wan et al., 2017).

Perceived Behavioral Control (PBC) is interpreted as the perceived difficulty level an individual faces in performing a specific behavior. It closely relates to self-confidence, representing an individual's belief in factors facilitating the implementation of behavior. In simple terms, this reflects the perceived difficulty level an individual associates with performing a particular behavior (Ajzen, 1985, 1987). When applied to the intention to invest in Retail green sukuk instruments, PBC indicates an individual's perception of the difficulty level associated with their investment choices. Several studies (Chan et al., 2018; Freire, 2018; Long et al., 2017; S. Wang et al., 2016; Wu et al., 2016; L. Zhang et al., 2019; Y. Zhang & Li, 2020) show a positive correlation between PBC and interest in green-related products or investment. Specifically, PBC is determined by the idea of situational and internal factors that support or hinder someone from performing a specific behavior (Chetioui et al., 2022; Kasri & Chaerunnisa, 2021).

Based on the conducted research, the intention to invest in retail green sukuk is influenced by several factors. A study using the Theory of Planned Behavior (TPB) to explore the factors influencing Indonesian consumers' intention to invest in green sukuk found that TPB can be used to understand the intention to invest in retail green sukuk, considering factors such as attitude, subjective norms, and perceived behavioral control (Aziz et al., 2023). Additionally, other factors such as socially responsible consumption can also influence the intention to invest in retail green sukuk. Thus, the intention to invest in Retail green sukuk is the result of the complexity of interrelated psychological, social, and economic factors. This research explores the relationship between stakeholders, sustainable finance, and investment behavior towards retail green sukuk in Indonesia. The current research framework can be illustrated in Figure 1.

Figure 1*Research framework*

METHOD

This research employs Partial Least Square – Structural Equation Modeling (PLS-SEM) as this method has the capability to execute highly complex models with latent variables (Hair et al., 2014). Consequently, its findings are reliable and statistically proven. Additionally, this study utilizes the Theory of Planned Behavior (TPB) model, where attitude, subjective norms, and perceived behavioral control are the independent variables. Based on the literature, the formulated hypotheses are as follows:

H1: There is a positive relationship between personal attitude (Attitude) and the intention of millennial Muslims to invest in retail green sukuk in Jabodetabek.

H2: There is a positive relationship between subjective norms and the intention of millennial Muslims to invest in retail green sukuk in Jabodetabek.

H3: There is a positive relationship between perceived behavioral control and the intention of millennial Muslims to invest in retail green sukuk in Jabodetabek.

In this study, a non-probability sampling research design was employed using purposive sampling technique. A total of 200 questionnaires were distributed to millennials in Jabodetabek from various institutions. The questionnaire was designed through Google Form specifically to collect responses from individuals with investment experience. To ensure timely analysis of responses, the data collection period for this research spanned three months, from October 2, 2023, to December 31,

2023. Out of the 200 questionnaires distributed, 183 were returned. Seventeen questionnaires were deemed unfit and discarded, resulting in 183 questionnaires suitable for the final analysis. This concluded with a response rate of 90.91%.

RESULTS AND DISCUSSION

The experimental phase of this research was conducted one week prior to the distribution of the research questionnaire, resulting in a total of 15 collected questionnaires. The gathered data underwent statistical analysis using SmartPLS 3.0 to determine the scale reliability within the questionnaire. Table 1.0 displays the results of the reliability test with a Cronbach's Alpha above 0.70, indicating high internal consistency. Thus, the questionnaire is valid and easily deployable.

Table 1

Reliability Test for the Experimental Study

| Variables | Indicators | Cronbach's Alpha |
|-------------------------------|------------|------------------|
| Attitude | 4 | 0.950 |
| Subjective Norms | 3 | 0.821 |
| Perceived Behavioural Control | 3 | 0.965 |
| Intentions | 3 | 0.871 |

Source: Primary data.

Demographic data provide information about the respondents' gender, age, and place of residence. Demographic analysis of the 183 usable data points is presented in Table 2. Among them, 110 (60.11%) respondents identified as male, and 73 (39.89%) identified as female. Furthermore, the majority of respondents fell within the 19-23 age range (44.81%). In terms of residence, the majority were domiciled in Bogor (34.97%). Lastly, a significant portion of respondents (44.26%) reported an income range between Rp. 1,000,000 and Rp. 5,000,000.

Table 2

Demographic Data of Respondents

| Items | | F | % |
|-----------|---------|-----|--------|
| Sex | Male | 110 | 60.11 |
| | Female | 73 | 39.89 |
| | Total | 183 | 100.00 |
| Age range | 19-22 | 82 | 44.81 |
| | 23-26 | 61 | 33.33 |
| | 27-30 | 40 | 21.86 |
| | Total | 183 | 100.00 |
| City | Jakarta | 40 | 21.86 |
| | Bogor | 64 | 34.97 |

| Items | | F | % |
|--------|------------------------|-----|--------|
| | Depok | 29 | 15.85 |
| | Tangerang | 26 | 14.21 |
| | Bekasi | 24 | 13.11 |
| | Total | 183 | 100.00 |
| Income | Less than IDR1,000,000 | 58 | 31.69 |
| | IDR1,000,000–5,000,000 | 81 | 44.26 |
| | More that IDR5,000,000 | 44 | 24.04 |
| | Total | 183 | 100.00 |

Source: Primary data.

Data analysis for this study was conducted using SmartPLS 3.0. To evaluate variable validity and reliability, this study applied specific thresholds: Outer Loadings value of (0.708), Composite Reliability (CR) of (0.700), and Average Variance Extracted (AVE) value of (0.50), as recommended by Hair et al. (2019). Upon analysis, no indicators from the variables were excluded from the study, as they all met the threshold for Outer Loadings. Moreover, all indicators satisfied the Heterotrait-Monotrait (HTMT) criteria (<0.90), as recommended by Henseler et al. (2015). Table 3 presents the final measurement model, indicating its reliability and valid convergent validity.

Table 3

Measurement Model

| | Indicators | Outer Loadings | Composite Reliability (CR) | Average Variance Extracted (AVE) |
|------------------------------------|------------|----------------|----------------------------|----------------------------------|
| Attitude (X1) | ATT1 | 0.860 | 0.938 | 0.791 |
| | ATT2 | 0.894 | | |
| | ATT3 | 0.912 | | |
| | ATT4 | 0.892 | | |
| Subjective Norms (X2) | SN1 | 0.952 | 0.967 | 0.879 |
| | SN2 | 0.956 | | |
| | SN3 | 0.932 | | |
| | SN4 | 0.910 | | |
| Perceived Behavioural Control (X3) | PBC1 | 0.955 | 0.955 | 0.876 |
| | PBC2 | 0.952 | | |
| | PBC3 | 0.899 | | |

| | | | | |
|---|------|-------|-------|--------------|
| Intention to Invest in Retail Green Sukuk (Y) | INT1 | 0.928 | 0.967 | 0.879 |
| | INT2 | 0.946 | | |
| | INT3 | 0.884 | | |

Source: Primary data. Authors' estimation.

Subsequently, a discriminant validity test was conducted to assess the content and substance of variables. Table 4 illustrates that the model meets the HTMT criteria (<0.90), affirming its discriminant validity (Henseler et al., 2015). The structural model is depicted in Figure 2, and various assessments have been conducted to evaluate it.

Table 4

Discriminant Validity

| | Attitude (X1) | Intention to Invest in Retail Green Sukuk (Y) | Perceived Behavioural Control (X3) | Subjective Norms (X2) |
|---|----------------------|--|---|------------------------------|
| Attitude (X1) | 0.890 | | | |
| Intention to Invest in Retail Green Sukuk (Y) | 0.818 | 0.920 | | |
| Perceived Behavioural Control (X3) | 0.617 | 0.505 | 0.938 | |
| Subjective Norms (X2) | 0.785 | 0.721 | 0.572 | 0.937 |

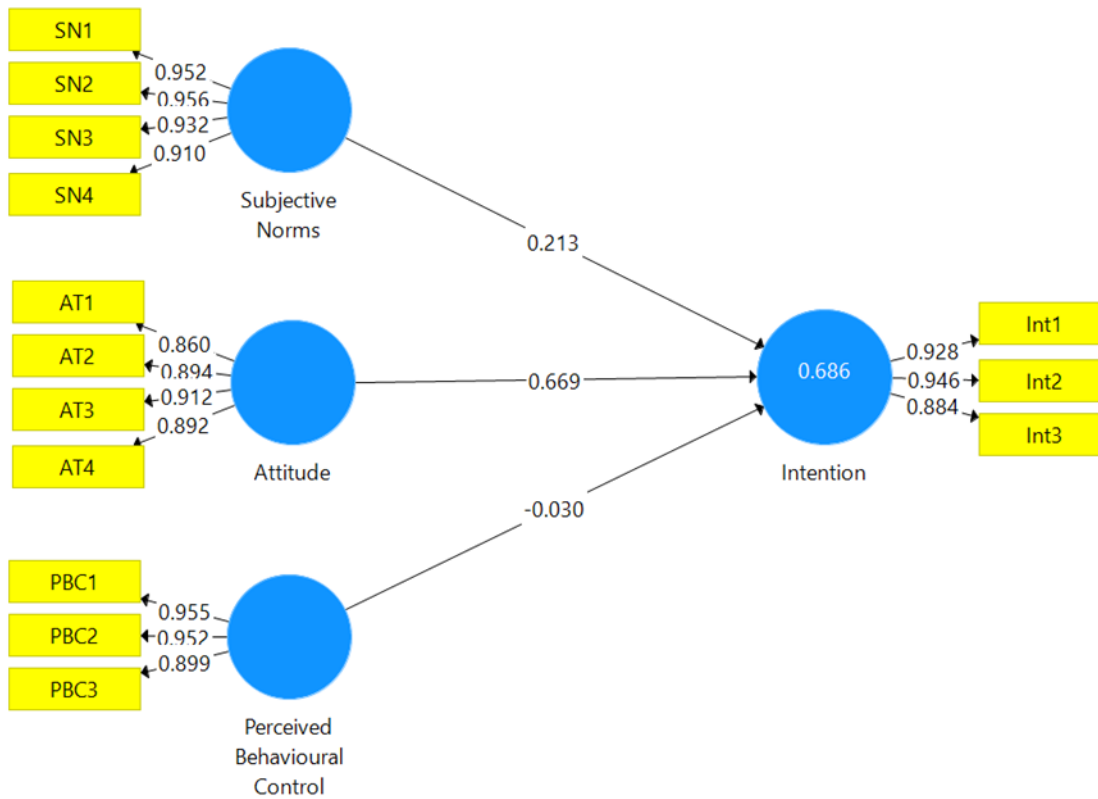
Source: Primary data. Authors' estimation.

In terms of lateral collinearity, the evaluation used inner VIF with a threshold value below (>5), as recommended by Sarstedt et al. (2020). Table 5 shows that none of the

inner VIF values are below 5, leading to the conclusion that there are no lateral collinearity issues among the variables in this study.

Figure 2

Structural Model



Source: Primary data. Authors' estimation.

Table 5

Lateral Collinearity

| | Attitude (X1) | Intention to Invest in Retail Green Sukuk (Y) | Perceived Behavioural Control (X3) | Subjective Norms (X2) |
|--|---------------|---|------------------------------------|-----------------------|
| Attitude (X1) | | 2.929 | | |
| Intention to Invest in Retail Green Sukuk (Y) | | | | |
| Perceived Behavioural Control (X3) | | 1.669 | | |
| Subjective Norms (X2) | | 2.693 | | |

Source: Primary data. Authors' estimation.



On the other hand, in assessing Explanatory Power, as presented in Table 6, the R² value for Intention to Invest Retail green sukuk (Y) is 0.686, indicating that the exogenous variables (Attitude, Subjective Norms, and Perceived Behavioral Control) can explain 68.80% of the endogenous variable (Intention). Specifically, the R² value for the intention to invest in Retail green sukuk is 0.686, suggesting that variables (Attitude, Subjective Norms, and Perceived Behavioral Control) can explain 68.80% of the indicators on the endogenous variable, Intention to Invest in Retail Green Sukuk (Y). This R² value indicates that the model is sufficiently effective in predicting the influence on the intention to invest in retail green sukuk.

Table 6

Explanatory Power Assessment

| | R Square |
|---|----------|
| Intention to Invest in Retail Green Sukuk (Y) | 0.686 |

Source: Primary data. Authors' estimation.

These findings also indicate that Attitude has the most substantial influence among the variables. Nevertheless, Subjective Norms also have a significant impact on the intention to invest in Retail Green Sukuk (Sarstedt et al., 2020). Table 7 provides a summary of the effect size (f²) for each variable.

Table 7

Effect Size (f²) Values

| | Attitude (X1) | Intention to Invest in Retail Green Sukuk (Y) | Perceived Behavioural Control (X3) | Subjective Norms (X2) |
|---|---------------|---|------------------------------------|-----------------------|
| Attitude (X1) | | 0.487 | | |
| Intention to Invest in Retail Green Sukuk (Y) | | | | |
| Perceived Behavioural Control (X3) | | 0.002 | | |
| Subjective Norms (X2) | | 0.054 | | |

Source: Primary data. Authors' estimation.

Lastly, estimation evaluation from the Structural Model assessment was performed by applying Bootstrapping analysis to determine the statistical significance of path coefficients. In this study, 114 samples were used to generate path coefficients and corresponding t-values (Streukens & Leroi-Werelds, 2016). Table 8 summarizes the hypothesis testing results, indicating that all tested hypotheses (H1, H2, and H3) are significant, with t-values ≥ 1.645 and significance at the 0.05 level. H1,

H2, and H3 conclude that Attitude, Subjective Norms, and Perceived Behavioral Control positively influence the intention to invest in Retail green sukuk.

Table 8

Summary of Hypothesis Testing

| Hypothesis | Relationship | Beta | Standard Error | t-Values |
|------------|--------------------|-------|----------------|----------|
| H1 | ATT (X1) > INT (Y) | 0.651 | 0.0124 | 5.411 |
| H2 | SN (X2) > INT (Y) | 0.006 | 0.092 | 0.328 |
| H3 | PBC (X3) > INT (Y) | 0.217 | 0.111 | 1.911 |

Source: Primary data. Authors' estimation.

In recent years, there has been a consistent global rise in the practice of green investment. As awareness of the urgent state of global climate change grows, the probability of an increase in individuals' willingness to invest in environmentally-friendly enterprises rises. This research aims to enhance public understanding of global warming and climate change, as well as its profound implications for our daily existence. Gaining insight into the investment patterns of millennial investors is essential, as they represent the future of investment in our nation. Undoubtedly, climate change continues to be the most formidable challenge impacting the global economy. This research provides empirical evidence for the significance of these three elements in guaranteeing the long-term viability of the capital market.

Previous research also found that it was consistent with the results analyzed from this study where the three variable elements had a positive effect on interest (Meng et al., 2021; Muhammad et al., 2022). Therefore, this shows the importance of these three variables in ensuring sustainable capital for investment instruments that have environmentally friendly initiatives. In addition, increasing personal attitudes, subjective norms, and perceived behavioral control have a positive effect on intention. Previous studies (Al-Debei et al., 2015; Roh et al., 2022; Sembada & Koay, 2021; Sumaedi et al., 2015) also found similar results. These findings suggest that retail investors possess internal motivation and are considered trustworthy when it comes to investing in Retail green sukuk. Hence, in order to encourage investment in retail green sukuk, it is crucial to establish a sense of confidence among investors through increased collaboration between the government and investors in conducting more green promotional events. This is due to the correlation between the level of control seen by investors and their trust in investing in companies that prioritize environmentally friendly projects. Thus, it is imperative to provide millennial investors

with additional information in order to enhance their sense of control over the performance of financial instruments. In addition, governments should contemplate offering supplementary incentives to individuals who invest in retail green sukuk. This would ensure that the instrument has ample funding for environmentally conscious endeavors and can effectively promote a sustainable environment without compromising human well-being.

CONCLUSION

Awareness of the importance of sustainable development is increasing amid climate and health crises, prompting society, especially millennials, to recognize the value of sustainable investments for generating steady income. This study stands out by exploring the motivational factors influencing investors' intentions to invest in environmentally-friendly initiatives. Specifically, it contributes to enhancing the original Theory of Planned Behavior (TPB), which influences decisions to invest in Retail green sukuk among millennials in Jabodetabek. Furthermore, achieving sustainable development requires substantial funding, especially for projects related to renewable energy. Responding to this challenge, stakeholders proactively design financial instruments specifically tailored to support initiatives aligned with the Medium-Term Development Plan (RPJM). One such innovative instrument is the development of Retail green sukuk, a unique form of financing dedicated to Smart Grid projects and energy efficiency.

Theoretically, this research provides empirical evidence that Attitude (X1), Subjective Norms (X2), and Behavioral Control (X3) variables influence the intention to invest in Retail green sukuk. Simultaneously, these findings indicate that the attitudes, subjective norms, and behavioral control of the public positively influence the intention to invest in Retail green sukuk. Particularly, this study uniquely focuses on the attitude variable as a crucial element in exploring the community's willingness to invest. Improved attitudes can impact increased interest in investing in Retail green sukuk instruments. Thus, when the public has a positive attitude towards investment, the interest among millennials in investing in Retail green sukuk increases.

These findings may suggest that governments issuing Retail green sukuk instruments should focus more on promoting their green initiatives. This will create a positive attitude among millennial investors toward Retail green sukuk instruments. Additionally, governments issuing Retail green sukuk instruments should frequently update their green initiatives so that retail investors feel better control over the financial and environmental performance of the government. Policymakers can play a crucial role in promoting environmentally friendly activities and programs among millennial investors. Retail investor participation will ensure a sustainable capital market. Policymakers can attract foreign direct investment by promoting and attracting investment in Green Sukuk, especially those issued by the government. Furthermore, policymakers can provide more incentives, such as tax exemptions for millennial investors, to encourage more investment in Retail green sukuk.

Indirectly, this can boost and stimulate interest among millennial investors. Moreover, the findings also indicate that the ability of investors to directly control the interest in investing in Retail green sukuk contributes significantly to that interest. The positive relationship between attitude, subjective norms, behavioral control, and behavioral interest in investing in Retail green sukuk has outlined its construction. Therefore, it is essential to stimulate these three variables to ensure a sustainable capital market for environmentally friendly initiatives.

To build an explanatory model regarding millennials' perceptions of their willingness to invest in Retail green sukuk was the main goal of this research. However, the study has some limitations. Firstly, static motivational factors adopted from the theory of planned behavior without considering other motivational factors might not be holistic in identifying these factors. External factors such as government incentives and tax exemptions are suggested for further research to identify internal and external motivational factors influencing millennials' interest in investing. Secondly, the three-month time allocation for collecting responses might not be enough to cover various respondent types based on location. Therefore, it is recommended to allocate more time to gather more responses. Finally, the online questionnaire distribution may not reach respondents with limited network access. It is suggested that future research includes both physical and online questionnaire distribution.

Author Contributions

| | | | |
|------------------------|---------------|----------------------------|---------------|
| Conceptualization | M.A.I. & R.W. | Resources | M.A.I. & R.W. |
| Data curation | M.A.I. & R.W. | Software | M.A.I. & R.W. |
| Formal analysis | M.A.I. & R.W. | Supervision | M.A.I. & R.W. |
| Funding acquisition | M.A.I. & R.W. | Validation | M.A.I. & R.W. |
| Investigation | M.A.I. & R.W. | Visualization | M.A.I. & R.W. |
| Methodology | M.A.I. & R.W. | Writing – original draft | M.A.I. & R.W. |
| Project administration | M.A.I. & R.W. | Writing – review & editing | M.A.I. & R.W. |

All authors have read and agreed to the published version of the manuscript.

Funding

This study received no direct funding from any institution.

Institutional Review Board Statement

The study was approved by Prodi Studi Ekonomi Syariah (S1), Institut Agama Islam Tazkia, Bogor, Indonesia.

Informed Consent Statement

Informed consent was obtained before respondents answered the questions.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

Acknowledgments

The authors thank Prodi Studi Ekonomi Syariah (S1), Institut Agama Islam Tazkia, Bogor, Indonesia, for administrative support for the research on which this article was based.

Conflicts of Interest

The authors declare no conflicts of interest.

REFERENCES

- Abdurrochim, A. (2019, November 1). *Pemerintah terbitkan green sukuk ritel pertama di dunia, Sukuk Tabungan Seri ST006 [The government issues the world's first retail green sukuk, the ST006 Series Savings Sukuk]* [HTML]. Kementerian Keuangan Republik Indonesia. <https://www.djppr.kemenkeu.go.id/pemerintahterbitkangreensukukritelpertamadidunia,sukukabunganserist006>
- Ahmed, N., Li, C., Khan, A., Qalati, S. A., Naz, S., & Rana, F. (2021). Purchase intention toward organic food among young consumers using theory of planned behavior: Role of environmental concerns and environmental awareness. *Journal of Environmental Planning and Management*, 64(5), 796–822. <https://doi.org/10.1080/09640568.2020.1785404>
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action Control: From Cognition to Behavior* (pp. 11–39). Springer. https://doi.org/10.1007/978-3-642-69746-3_2
- Ajzen, I. (1987). Attitudes, traits, and actions: Dispositional prediction of behavior in personality and social psychology. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 20, pp. 1–63). Academic Press. [https://doi.org/10.1016/S0065-2601\(08\)60411-6](https://doi.org/10.1016/S0065-2601(08)60411-6)
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Al-Debei, M. M., Akroush, M. N., & Ashouri, M. I. (2015). Consumer attitudes towards online shopping: The effects of trust, perceived benefits, and perceived web quality. *Internet Research*, 25(5), 707–733. <https://doi.org/10.1108/IntR-05-2014-0146>
- Ateş, H. (2020). Merging theory of planned behavior and value identity personal norm model to explain pro-environmental behaviors. *Sustainable Production and Consumption*, 24, 169–180. <https://doi.org/10.1016/j.spc.2020.07.006>
- Awn, A. M., & Azam, S. M. F. (2020). Libyan investors' intention to invest in Islamic sukuk: Theory of planned behaviour approach. *European Journal of Economic and Financial Research*, 4(1), 27–33. <https://doi.org/10.46827/ejefr.v0i0.794>
- Aziz, A. A., Indra, I., & Tarmizi, E. (2023). Faktor penentu generasi milenial di Jabodetabek menjadi nasabah bank syariah [The determining factor for the millennial generation in Jabodetabek to become sharia bank customers]. *Journal of Comprehensive Science (JCS)*, 2(8), 1419–1430. <https://doi.org/10.59188/jcs.v2i8.496>
- Banerjee, S. B. (2018). Transnational power and translocal governance: The politics of corporate responsibility. *Human Relations*, 71(6), 796–821. <https://doi.org/10.1177/0018726717726586>
- Berger-Walliser, G., & Scott, I. (2018). Redefining Corporate Social Responsibility in an Era of Globalization and Regulatory Hardening. *American Business Law Journal*, 55(1), 167–218. <https://doi.org/10.1111/ablj.12119>
- Chan, K. H., Ng, T. H., & Fadi, A. (2018). What do undergraduates think about green investment? Empirical evidence from a developing nation. *Indian Journal of Public Health Research & Development*, 9, 1627. <https://doi.org/10.5958/0976-5506.2018.01677.7>
- Chetioui, Y., Satt, H., Lebdaoui, H., Baijou, M., Dassouli, S., & Katona, S. (2022). Antecedents of giving charitable donations (Sadaqah) during the COVID-19 pandemic: Does Islamic religiosity

- matter? *Journal of Islamic Marketing*, 14(5), 1169–1187. <https://doi.org/10.1108/JIMA-09-2021-0296>
- Cordano, M., & Frieze, I. H. (2000). Pollution reduction preferences of U.S. environmental managers: Applying Ajzen's theory of planned behavior. *The Academy of Management Journal*, 43(4), 627–641. <https://doi.org/10.2307/1556358>
- Doval, E., & Negulescu, O. (2014). A model of green investments approach. *Procedia Economics and Finance*, 15, 847–852. [https://doi.org/10.1016/S2212-5671\(14\)00545-0](https://doi.org/10.1016/S2212-5671(14)00545-0)
- Fong, K. K.-K., & Wong, S. K. S. (2015). Factors influencing the behavior intention of mobile commerce service users: An exploratory study in Hong Kong. *International Journal of Business and Management*, 10(7), 39–47. <https://doi.org/10.5539/ijbm.v10n7p39>
- Freire, P. A. (2018). Enhancing innovation through behavioral stimulation: The use of behavioral determinants of innovation in the implementation of eco-innovation processes in industrial sectors and companies. *Journal of Cleaner Production*, 170, 1677–1687. <https://doi.org/10.1016/j.jclepro.2016.09.027>
- Gilchrist, D., Yu, J., & Zhong, R. (2021). The limits of green finance: A survey of literature in the context of green bonds and green loans. *Sustainability*, 13(2), 478. <https://doi.org/10.3390/su13020478>
- Goh, E., Ritchie, B., & Wang, J. (2017). Non-compliance in national parks: An extension of the theory of planned behaviour model with pro-environmental values. *Tourism Management*, 59, 123–127. <https://doi.org/10.1016/j.tourman.2016.07.004>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Halim, M. P., Matoati, R., Viana, E. D., & Suryawati, R. F. (2022). Pengaruh literasi keuangan dan green perceived risk terhadap keputusan investasi milenial Jawa Barat [The influence of financial literacy and green perceived risk on West Java millennial investment decisions]. *Jurnal Manajemen Dan Organisasi*, 13(2), 203–212. <https://doi.org/10.29244/jmo.v13i2.31716>
- Han, H., Hsu, L.-T. (Jane), & Sheu, C. (2010). Application of the Theory of Planned Behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, 31(3), 325–334. <https://doi.org/10.1016/j.tourman.2009.03.013>
- Hania, B. T., Endri, E., & Indra, I. (2022). Identify the issuance problem of corporate green sukuk in Indonesia. *Islamic Economics Journal*, 8(2), 187. <https://doi.org/10.21111/iej.v8i2.8404>
- Hapsari, M. A., Suswoto, S., & Ariyani, N. (2021). Politik hukum hubungan pusat dan daerah dalam penanggulangan bencana [Legal politics of central and regional relations in disaster management]. *Journal of Law and Policy Transformation*, 6(1), 140–159. <https://doi.org/10.37253/jlpt.v6i1.4425>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Inderst, G., Kaminker, C., & Stewart, F. (2012). *Defining and measuring green investments: Implications for institutional investors asset allocations* (OECD Working Papers on Finance, Insurance and Private Pensions). Organisation for Economic Cooperation and Development (OECD). <https://search.proquest.com/openview/3b4b14bad6f9a6946bfc19878a1210b5/1?pq-origsite=gscholar&cbl=2026384>

- Kalinic, Z., & Marinkovic, V. (2016). Determinants of users' intention to adopt m-commerce: An empirical analysis. *Information Systems and E-Business Management*, 14(2), 367–387. <https://doi.org/10.1007/s10257-015-0287-2>
- Karina, L. A. (2019). Peluang dan tantangan perkembangan green sukuk di Indonesia [Opportunities and challenges for the development of green sukuk in Indonesia]. *Proceeding of Conference on Islamic Management, Accounting, and Economics*, 259–265. <https://journal.uii.ac.id/CIMAE/article/view/14165>
- Kasri, R. A., & Chaerunnisa, S. R. (2021). The role of knowledge, trust, and religiosity in explaining the online cash waqf amongst Muslim millennials. *Journal of Islamic Marketing*, 13(6), 1334–1350. <https://doi.org/10.1108/JIMA-04-2020-0101>
- Kementerian Keuangan Republik Indonesia. (2020). *Studi mengenai green sukuk ritel di Indonesia [Study of green retail sukuk in Indonesia]*. Direktorat Jenderal Pengelolaan Pembiayaan dan Risiko. <https://www.djppr.kemenkeu.go.id/hasilpenjualangreensukukritel%E2%80%93sukuktabunganserist009>
- Kementerian Keuangan Republik Indonesia. (2022, December 5). *Hasil penjualan green sukuk ritel – Sukuk Tabungan Seri ST009 [Proceeds from sales of retail green sukuk – ST009 Series Savings Sukuk]* [HTML]. Direktorat Jenderal Pengelolaan Pembiayaan Dan Risiko. <https://www.djppr.kemenkeu.go.id/hasilpenjualangreensukukritel%E2%80%93sukuktabunganserist009>
- Khan, S. A. R., Godil, D. I., Yu, Z., Abbas, F., & Shamim, M. A. (2022). Adoption of renewable energy sources, low-carbon initiatives, and advanced logistical infrastructure—An step toward integrated global progress. *Sustainable Development*, 30(1), 275–288. <https://doi.org/10.1002/sd.2243>
- Kumar, L., Nadeem, F., Sloan, M., Restle–Steinert, J., Deitch, M. J., Ali Naqvi, S., Kumar, A., & Sassanelli, C. (2022). Fostering green finance for sustainable development: A focus on textile and leather small medium enterprises in Pakistan. *Sustainability*, 14(19), 11908. <https://doi.org/10.3390/su141911908>
- Kurniarahma, L., Laut, L. T., & Prasetyanto, P. K. (2020). Analisis faktor–faktor yang mempengaruhi emisi CO2 di Indonesia [Analysis of factors influencing CO2 emissions in Indonesia]. *DINAMIC: Directory Journal of Economic*, 2(2), 368–385. <https://doi.org/10.31002/dinamic.v2i2.1429>
- Kusriyah, S., & Witasari, A. (2024). Sosialisasi kebijakan penataan ruang melalui pemanfaatan ruang untuk pembangunan yang berkelanjutan [Socialization of spatial planning policies through the use of space for sustainable development]. *Jurnal Penelitian Dan Pengabdian Kepada Masyarakat UNSIQ*, 11(1), 16–24. <https://doi.org/10.32699/ppkm.v11i01.5680>
- Long, X., Chen, Y., Du, J., Oh, K., & Han, I. (2017). Environmental innovation and its impact on economic and environmental performance: Evidence from Korean-owned firms in China. *Energy Policy*, 107, 131–137. <https://doi.org/10.1016/j.enpol.2017.04.044>
- Lucarelli, C., Mazzoli, C., & Severini, S. (2020). Applying the theory of planned behavior to examine pro-environmental behavior: The moderating effect of Covid-19 beliefs. *Sustainability*, 12(24), Article 24. <https://doi.org/10.3390/su122410556>
- Majid, R., & Maulana, A. (2023). *The initial discussions of MSMEs' green sukuk through Islamic securities crowdfunding: Behavioral intentions study of prospective investors*. 316–343. https://doi.org/10.2991/978-94-6463-176-0_21

- Meng, F., Guo, X., Peng, Z., Ye, Q., & Lai, K.-H. (2021). Trust and elderly users' continuance intention regarding mobile health services: The contingent role of health and technology anxieties. *Information Technology & People*, 35(1), 259–280. <https://doi.org/10.1108/ITP-11-2019-0602>
- Morea, D., & Poggi, L. A. (2017). An innovative model for the sustainability of investments in the wind energy sector: The use of green sukuk in an Italian case study. *International Journal of Energy Economics and Policy*, 7(2), 53–60. <https://www.econjournals.com/index.php/ijeep/article/view/4073>
- Muhammad, S., Dey, B., Alwi, S., Kamal, M., & Asaad, Y. (2022). Consumers' willingness to share digital footprints on social media: The role of affective trust. *Information Technology & People*, 36(2), 595–625. <https://doi.org/10.1108/ITP-10-2020-0694>
- Musahidah, U., & Sobari, N. (2021). Determinants of the intentions of Indonesian Muslim Millennials in cash waqf using e-payment. *Jurnal Ekonomi Dan Perbankan Syariah*, 9(2), 65–91. <https://doi.org/10.46899/jeps.v9i2.284>
- Nagaty, S. A. (2022). Eco-friendly initiatives and corporate reputation: The mediating effect of corporate social responsibility. *Business and Management Review*, 13(4), 833–878. <https://doi.org/10.21608/jces.2022.279776>
- Osman, I., Ma'in, M., Muda, R., Husni, N. S. A., Alwi, S. F. S., & Hassan, F. (2019). Determinants of behavioural intention towards green investments: The perspectives of Muslims. *International Journal of Islamic Business*, 4(1), 16–38. <https://doi.org/10.32890/ijib2019.4.1.2>
- Otoritas Jasa Keuangan. (2022, November 22). *Siaran Pers: Survei Nasional Literasi dan Inklusi Keuangan Tahun 2022 [Press Release: 2022 National Survey of Financial Literacy and Inclusion]* [HTML]. Otoritas Jasa Keuangan. <https://ojk.go.id/id/berita-dan-kegiatan/siaran-pers/Pages/Survei-Nasional-Literasi-dan-Inklusi-Kuangan-Tahun-2022.aspx>
- Prasetya, R., Fauziah, S., & Kasmoo, A. B. P. (2022). The determinants of Muslim millennials' intention towards savings sukuk. *AL-MUZARA'AH*, 10(2), 139–153. <https://doi.org/10.29244/jam.10.2.139-153>
- Pujiantoro, A. S. G., Dindalila, D., & Fakhruddin, N. (2021). Narrative review: Peluang dan tantangan green sukuk di Indonesia [Narrative review: Opportunities and challenges of green sukuk in Indonesia]. *Diponegoro Journal of Islamic Economics and Business*, 1(4), 208–219. <https://ejournal2.undip.ac.id/index.php/djieb/article/view/20242>
- Roh, T., Seok, J., & Kim, Y. (2022). Unveiling ways to reach organic purchase: Green perceived value, perceived knowledge, attitude, subjective norm, and trust. *Journal of Retailing and Consumer Services*, 67, 102988. <https://doi.org/10.1016/j.jretconser.2022.102988>
- Saeed Meo, M., & Karim, M. Z. A. (2022). The role of green finance in reducing CO2 emissions: An empirical analysis. *Borsa Istanbul Review*, 22(1), 169–178. <https://doi.org/10.1016/j.bir.2021.03.002>
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2020). Partial Least Squares Structural Equation Modeling. In C. Homburg, M. Klarmann, & A. E. Vomberg (Eds.), *Handbook of Market Research* (pp. 1–47). Springer International Publishing. https://doi.org/10.1007/978-3-319-05542-8_15-2
- Scalco, A., Noventa, S., Sartori, R., & Ceschi, A. (2017). Predicting organic food consumption: A meta-analytic structural equation model based on the theory of planned behavior. *Appetite*, 112, 235–248. <https://doi.org/10.1016/j.appet.2017.02.007>
- Sembada, A. Y., & Koay, K. Y. (2021). How perceived behavioral control affects trust to purchase in social media stores. *Journal of Business Research*, 130, 574–582. <https://doi.org/10.1016/j.jbusres.2019.09.028>

- Simamora, H. (2022). Gaya hidup millennial dan perilaku keuangan [Millennial lifestyle and financial behavior]. *MABIS*, 13(2), 155–168. <https://journal.widyadharma.ac.id/index.php/mabis/article/view/402>
- Streukens, S., & Leroi-Werelds, S. (2016). Bootstrapping and PLS-SEM: A step-by-step guide to get more out of your bootstrap results. *European Management Journal*, 34(6), 618–632. <https://doi.org/10.1016/j.emj.2016.06.003>
- Su, L., Huang, S. (Sam), & Pearce, J. (2018). How does destination social responsibility contribute to environmentally responsible behaviour? A destination resident perspective. *Journal of Business Research*, 86, 179–189. <https://doi.org/10.1016/j.jbusres.2018.02.011>
- Sudaryanti, N., Mahfud, A. A., & Wulandari, R. (2011). Analisis determinan peringkat sukuk dan peringkat obligasi di Indonesia [Analysis of the determinants of sukuk ratings and bond ratings in Indonesia]. *Tazkia Islamic Finance and Business Review*, 6(2), 271354. <https://doi.org/10.30993/tifbr.v6i2.54>
- Sumaedi, S., Bakti, I. G. M. Y., Rakhmawati, T., Astrini, N. J., Yarmen, M., & Widiyanti, T. (2015). Patient loyalty model: An extended theory of planned behavior perspective (a case study in Bogor, Indonesia). *Leadership in Health Services*, 28(3), 245–258. <https://doi.org/10.1108/LHS-03-2014-0021>
- Syaichoni, A. (2023). Green investment strategies in sustainable Islamic economics: A viable solution for global recession challenges. *Al-Masharif: Jurnal Ilmu Ekonomi Dan Keislaman*, 11(2), 240–254. <https://doi.org/10.24952/masharif.v11i2.10132>
- Tan, C.-S., Ooi, H.-Y., & Goh, Y.-N. (2017). A moral extension of the theory of planned behavior to predict consumers' purchase intention for energy-efficient household appliances in Malaysia. *Energy Policy*, 107, 459–471. <https://doi.org/10.1016/j.enpol.2017.05.027>
- Valtonen, T., Kukkonen, J., Kontkanen, S., Sormunen, K., Dillon, P., & Sointu, E. (2015). The impact of authentic learning experiences with ICT on pre-service teachers' intentions to use ICT for teaching and learning. *Computers & Education*, 81, 49–58. <https://doi.org/10.1016/j.compedu.2014.09.008>
- Wan, C., Shen, G. Q., & Choi, S. (2017). Experiential and instrumental attitudes: Interaction effect of attitude and subjective norm on recycling intention. *Journal of Environmental Psychology*, 50, 69–79. <https://doi.org/10.1016/j.jenvp.2017.02.006>
- Wang, S., Fan, J., Zhao, D., Yang, S., & Fu, Y. (2016). Predicting consumers' intention to adopt hybrid electric vehicles: Using an extended version of the theory of planned behavior model. *Transportation*, 43(1), 123–143. <https://doi.org/10.1007/s11116-014-9567-9>
- Wang, Z., Zhang, B., Yin, J., & Zhang, Y. (2011). Determinants and policy implications for household electricity-saving behaviour: Evidence from Beijing, China. *Energy Policy*, 39(6), 3550–3557. <https://doi.org/10.1016/j.enpol.2011.03.055>
- Wang, Z., Zhao, C., Yin, J., & Zhang, B. (2017). Purchasing intentions of Chinese citizens on new energy vehicles: How should one respond to current preferential policy? *Journal of Cleaner Production*, 161, 1000–1010. <https://doi.org/10.1016/j.jclepro.2017.05.154>
- Waris, I., Suki, N. M., Ahmed, A., & Barkat, W. (2024). Environmental corporate social responsibility initiatives and green customer citizenship behavior in tourism industry: The mediating roles of green trust, customer-company identification and green corporate image. *Social Responsibility Journal*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/SRJ-07-2023-0378>

- Wu, J., Li, S.-H., & Sung, W.-Y. (2016). The study of perceived environment and its relation to senior citizen's physical activity behavior intention. *Journal of Business Research*, 69(6), 2259–2264. <https://doi.org/10.1016/j.jbusres.2015.12.039>
- Yuriev, A., Dahmen, M., Paillé, P., Boiral, O., & Guillaumie, L. (2020). Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review. *Resources, Conservation and Recycling*, 155, 104660. <https://doi.org/10.1016/j.resconrec.2019.104660>
- Zahan, I., & Chuanmin, S. (2021). Towards a green economic policy framework in China: Role of green investment in fostering clean energy consumption and environmental sustainability. *Environmental Science and Pollution Research*, 28(32), 43618–43628. <https://doi.org/10.1007/s11356-021-13041-2>
- Zhan, J. X., & Santos-Paulino, A. U. (2021). Investing in the Sustainable Development Goals: Mobilization, channeling, and impact. *Journal of International Business Policy*, 4(1), 166–183. <https://doi.org/10.1057/s42214-020-00093-3>
- Zhang, L., Fan, Y., Zhang, W., & Zhang, S. (2019). Extending the Theory of Planned Behavior to Explain the Effects of Cognitive Factors across Different Kinds of Green Products. *Sustainability*, 11(15), 4222. <https://doi.org/10.3390/su11154222>
- Zhang, Y., & Li, L. (2020). Intention of Chinese college students to use carsharing: An application of the theory of planned behavior. *Transportation Research Part F: Traffic Psychology and Behaviour*, 75, 106–119. <https://doi.org/10.1016/j.trf.2020.09.021>
- Zulaicha, A. U., Sasana, H., & Septiani, Y. (2020). Analisis determinasi emisi CO₂ di Indonesia tahun 1990–2018 [Analysis of the determination of CO₂ emissions in Indonesia 1990–2018]. *DINAMIC: Directory Journal of Economic*, 2(2), 487–500. <https://doi.org/10.31002/dinamic.v2i2.1384>