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Article

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The analysis of factors affecting online investment platforms in the Philippine context: an integration of SET-VBN theory

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ABSTRACT

Innovative technology initiated the popularity of online investment platforms (OIPs) among households. However, acceptability and human factors affecting behavioral use has been underexplored despite its popularity. This study's main objective was to assess consumers' behavioral intention to invest among investors from the Philippines through purposive sampling. The integration of Social Exchange Theory (SET) and Value-Belief-Norm Theory (VBN) was considered for the holistic assessment in this study. This study was assessed and evaluated holistically through a higher-order partial least square structural equation analysis to determine significant factors affecting investment intention. Analysis using SMART-PLS v4.0, it was seen that social norm was the most significant latent variable, followed by values (ie traditional, egoistic, openness to change, and altruistic), trust, personal norm, perceived safety, beliefs on utility function, and economic benefit. The study highlights the importance of the perception of influential people regarding investment and how crucial it is for consumers to have their values aligned and satisfied with the platform. The study is the first to utilize SET and VBN outside their usual context – sustainability and environmental-related behavioral studies. Thus, the newly contextualized framework could be developed and extended with further implications presented for utilization both in the theoretical and practical aspects.

IMPACT STATEMENT

This study provided insight on the financial and investment behavior among Filipinos, setting a benchmark for this area since no studies have yet covered this. The establishment of the integrated theory could be applied and extended among financial behavior with social and behavioral exchange in terms of economic aspect related studies. Practical and managerial implications have been provided with actionable items for consideration and application in real-life setting.

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SUBJECTS

Applied Mathematics; Economic Psychology; Multidisciplinary Psychology; Consumer Psychology; Economics; Information Technology; Engineering Economics

1. Introduction

Online investment platforms (OIPs) have exponentially increased in the past 20 years due to the introduction of capable technology in the western households. OIPs allow investors to buy, sell, trade, and monitor securities such as cryptocurrencies, stocks, futures, bonds, options, and funds. TradeKing, Capital One, and TradeStation are among the widely utilized OIPs in the world (Aharon & Qadan, 2020). The advantage of using these are having lower fees, faster transaction times, and data transparency (Zamzami et al., 2017). The differences of these OIPs are present in the range of security features that allows trading on their platform. These brought a lot of engagement and trust among consumers to utilize this investment technology. Moreover, Seraj et al. (2022) established that people with financial literacy would positively affect an investor's final decision, which, in turn, affects financial gains.

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Fintech News Singapore (2022) recommended the top OIPs to consumers who want to invest. The top performing OIPs in Asia (either web-based or available as mobile applications) are eToro, Coinbase, and Binance. Their article stated that web based OIPs are more openly accessible to consumers because they do not need installation. On the other hand, OIPs as mobile apps are more suited for experienced traders who look for ease of use and convenience. Comparing the common OIPs of Asia to those used internationally, these platforms naturally differ in the features offered and the fees applied to every transaction. Moreover, some OIPs are unavailable in certain countries, making them inaccessible to consumers who want to utilize their platform. On the other hand, specific OIPs have niche uses. An example of this is eToro, which is mainly used to copy the trades of investors with a successful track record. Subsequently, Fintech News Philippines (2023) listed the OIPs used in the country. The widely used ones Binance and Coinbase, to name a few, were also used in different parts of Asia. Thus, OIPs that have established trust from the community will have an easier time being adopted by new consumers.

Fintech News Philippines (2023) also took note of the increasing amount of cryptocurrency transactions in the Philippines. Figure 1 shows the value of the transactions, and its volume saw an increase by 410% and 26%, respectively. The growth of transactions and volume shows that cryptocurrency acceptance is rising among consumers in the Philippines. Philippine Digital Asset Exchange (PDAX), a licensed cryptocurrency exchange platform, saw its customers surge from 20,000 in 2019 to 500,000 in only 2 years. Moreover, the Philippine Stock Exchange (PSE) and the Union Bank of the Philippines have plans of adapting digital assets and cryptocurrency features in their establishments. The increasing amount of consumers in the investment market unlock financial opportunities which leads to financial gain. However, limited studies on behavioral investment intention and actual investment have been made.

With the advent rise of technology adoption, usage, and implementation, Zhang et al. (2024) reflected on how this becomes an integral part of people's lives. To which, it was seen to affect even the younger generation in terms of education, social use, and networking. In relation, the study of Tan et al. (2024) and Zhuang et al. (2022) suggested that the enhancement and development of technology should be quickly adopted by policymakers, government and their regulations, and business regulators for a more sustainable economy. To add, Li et al. (2022) stated that both users and the firm or industry should be reflective of each other's outcome as consumer-business relationship are correlated. This depicts the business' rise and profitability, leading to a more sustainable business performance. Iorember et al. (2023) added that financial institutions need to continuously promote investing and lending strategies to promote strong decoupling status – higher economic growth, increase sustainability, and reduce carbon emission, as well as building infrastructure and further development.

A study by Agarwal et al. (2022) in India concluded that consumers can efficiently manage their portfolios with sufficient financial literacy and understanding of risk and return. Hossain and Siddiqua (2022) explored the behavioral aspects of the decisions made by investors based in Bangladesh. Their results

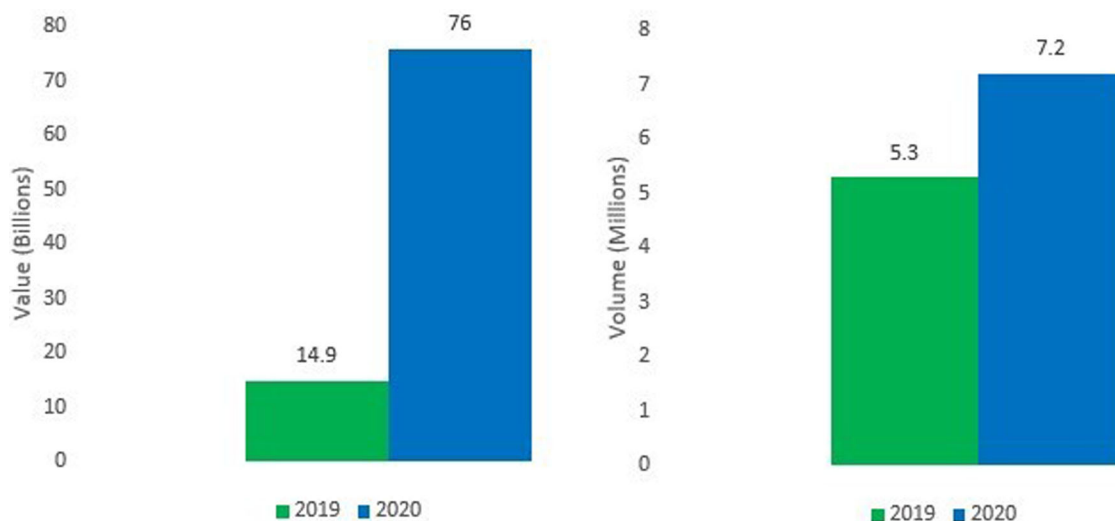


Figure 1. Volume and value of cryptocurrency transactions from 2019 to 2020.

emphasized risk aversion and perception as the most significant factors in an investor's decision-making. Thus, investors rarely follow the norms dictated by financial theories. Wang et al. (2021) assessed the influence of investment behavior on the financial markets in the United Kingdom. Their study concluded that the rate of profitability investors depends on their ability to evaluate financial risk.

In the Philippines, Lee-Tan (2023) emphasized that the most significant risk Filipino investors face today is the lack of engagement in OIPs. Their detachment is due to fear of losing money rather than gaining, which will be the case if they do not properly manage risks. Cordero (2020) stated that Filipinos fail to realize that investments can enhance their financial health and are an additional source of income, rather, they see it as an expense. Their inherent values lead them to think that investments are not worth their time. They prioritize providing for their families rather than using the capital to invest due to their strong family orientation. In addition, Agcaoili (2020) highlighted that many Filipinos lack the financial literacy to navigate and use the OIPs to their advantage. Moreover, Filipinos do not feel obligated to prepare for their future, whether that may be setting up savings accounts, insurance, or investing. Thus, there is a need for further investigation for better implementation of OIPs in the country.

To date, there are limited studies on the promotion and implication of OIPs due to scarce literature of investment behavior, especially in the Philippines. Only a study from Benignos and Navarro (2020) was seen to be related. It covered the evaluation of the satisfaction among Filipino investors who use online stock trading platforms. However, their study only covered cost, reliability, security, account features, ease of use, and customer service. From their study, it was seen that consumers were highly satisfied with their platform's cost component and deemed reliability as the most significant factor. Therefore, it could be stated that have been no studies that evaluated the values, beliefs, and norms of investing individuals. In addition, the analysis of the exchange for benefit among investors has not been covered.

Therefore, this study aimed to holistically measure the preceding factors influencing online investment behavior among consumers utilizing OIPs. The study utilized a framework that integrated the Social Exchange Theory (SET) and Value-Belief-Norm Theory (VBN). Since people's values, beliefs, and norms are needed to be analyzed, the domains of VBN have been presented to provide this assessment (Ghazali et al., 2019). On the other hand, the exchange, whether beneficial or negative, would lead to the enhanced output of justification for investment intention or behavior. Thus, SET was utilized (Homans, 1958). The significance of this study was to provide insight into how SET and VBN can be used outside of their normal context. Moreover, understanding factors affecting investment behavior could help consumers build knowledge of their reactions based on market movements; therefore, they can make informed decisions and avoid taking unnecessary risks. Lastly, financial institutions could improve their existing OIPs by tailoring them to the preferences and behavior of their consumers found from the results and implications of this study.

2. Conceptual framework

Figure 2 presents the conceptual framework of this study, integrating both SET and VBN. This formulated ten hypotheses to analyze investment behavior among users of online investment platforms. Among the theories, Homans (1958) established that SET which directly influences the economic aspect, as human nature inclines toward evaluating both value and cost. Accessibility, perceived safety, economic benefit, and financial management represent the value and cost of online investment platforms in this study. According to Cahigas et al. (2022), these variables under SET examines resource exchange driven by substantial rewards. On the other hand, Ghazali et al. (2019) explained VBN as a casual chain connecting values, beliefs, norms, and behaviors among individuals. These were the framework utilized to completely measure the behavioral intention of people to invest among financial platforms.

In the context of this study, accessibility refers to the availability and reliability of online investing platforms. Deley and Dubois (2020) assessed trust against reliance on technology platforms and found that trust on technology would only be significant if it was proven to be reliable by companies. To which, the findings of Wanner et al. (2022) stated that consumers are more likely to trust the technology if the expected output on a system to perform well exhibited positive results; thereby relating accessibility on trust. It was therefore hypothesized that:

H1. Accessibility of online investment platforms has a significant positive influence on user's trust.

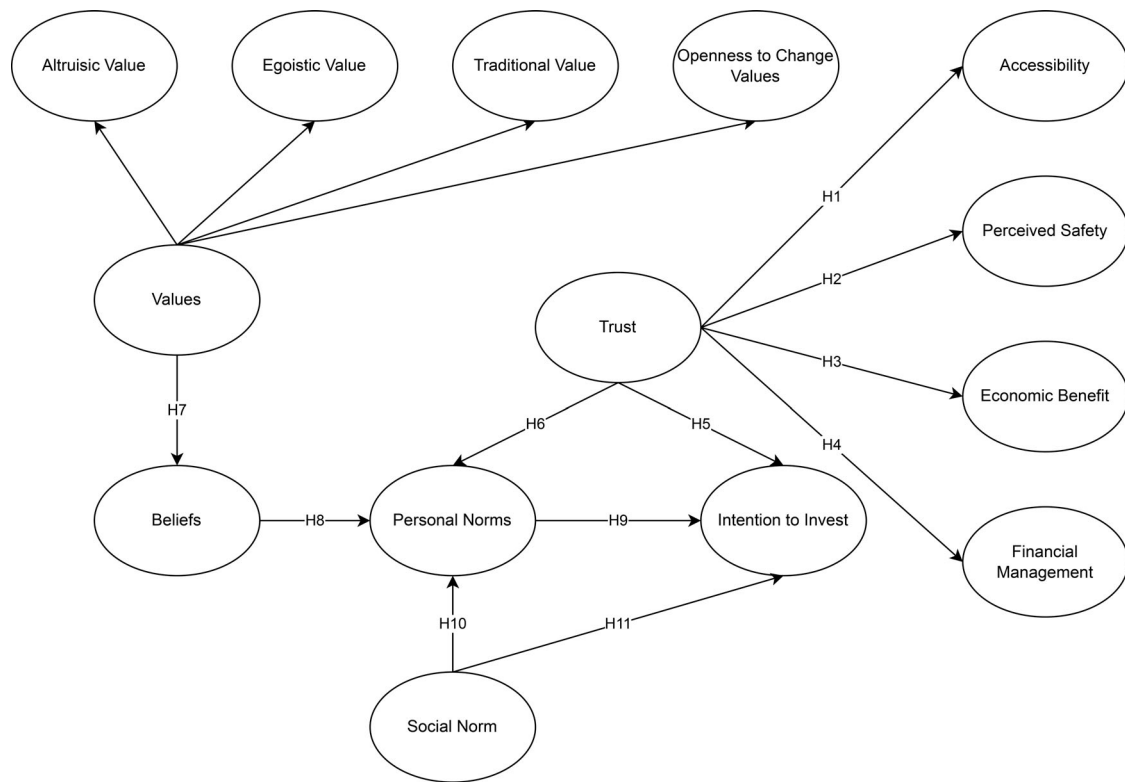


Figure 2. Conceptual Framework.

Assessing the safety of technology utility, Ford et al. (2022) researched mobile application usage for personal safety and discovered that most reviews shared a positive sentiment. Users exhibited positive behavior when the application fulfilled its intended purpose, proving valuable and reliable. Cao et al. (2021) emphasized the pivotal role of public perception in the success of emerging technologies. The perception of safety and trustworthiness significantly shaped the acceptance and adoption of new technologies. The study underscored the importance of addressing public concerns and building trust to facilitate technological advancements. On a financial perspective, this study hypothesized that:

H2. Perceived safety of online investment platforms has a significant positive influence on user's trust.

Roth (2022) asserted a positive relationship between economic benefit and trust. It was explained that trust acts as a facilitator for coordination among parties, enabling mutual benefit. When trust exists, it allows for cooperative efforts that lead mutual gains in various economic contexts. It was posited that trust could be built when benefits, preceding by economic benefits, are positive. The positive results of the study replicate findings from prior empirical studies. An example of which are that Dabbous and Tarhini (2019) established a link between positive behavior among consumers who engage in a shared economy – developing trust through economic benefit. Moreover, the study of Tan et al. (2024) delineated that several factors affect sustainable development (ie green energy and digitalization). This is because urbanization and income degrade and negates environmental sustainability. Therefore, the development and the build infrastructure under sustainable technology in the economic aspects would increase local's well-being (Abbas et al., 2024). Hence, it was hypothesized that:

H3. Economic benefit of online investment platforms has a significant positive influence on user's trust.

On the other hand, Maier et al. (2022) assessed consumers' trust in accordance with AI's performance in financial management tasks. The results were a positive correlation between the two latent variables. To support it further, consumers placed greater trust in AI when it displayed a significant performance. Oláh et al. (2019) had similar results in large companies, wherein companies that have established

themselves as trustworthy can offer better benefits. Iorember et al. (2023) also added that policy and implications should be built among the technology development to reduce negative environmental impact, leading users for increased spending on education, even relate to investment for empowered sustainable development in the country. Thus, it was hypothesized that:

H4. Financial management of online investment platforms has a significant positive influence on user's trust.

In another context, the empirical study by Jadil et al. (2022) revealed that trust in a market significantly affects consumers' purchase intention. Consumers' display of positive behavior toward the market results in an increase in positive intention. In addition, Thaker et al. (2019) discovered that investors in peer-to-peer lending platforms are hesitant to start their initial investment until a level of trust is built. Most online investment platforms are faceless, which means a substantial amount of trust must first be established between the investor and the platform. This thereby creates a positive personal norm and intention behavior (Cao et al., 2018). Consequently, if there is insufficient trust among the platform's investors, they will likely not engage in the platform at all. Thus, it was hypothesized that:

H5. Trust in online investment platforms has a significant positive influence on user's intention to invest.

H6. Trust in online investment platforms has a significant positive influence on personal norms.

In the VBN context, values diverse from altruistic, egoistic, traditional, and openness to change values. Altruistic value pertains to an individual's belief that the action being performed has an impact on the well-being of others (Ghazali et al., 2019). Consequently, Thelken and de Jong (2020) found altruistic values strengthen belief, leading to the intention to do something. On the other hand, egoistic values present the cost-benefit relationship an individual has on their gains, achievements, and power from their action choice. In the study of Tian (2022), they concluded that college students with strong egoistic values are more likely to have confidence in their capabilities to start a business. It presents that if an individual gains financial benefits from their action, it would lead to a positive behavior.

In addition, Ghazali et al. (2019) defined traditional values as the values passed down from generation and practiced by society. Zong et al. (2023) emphasized that consumer's intention is stronger when their traditional values identify with the product. Prinsloo and Lew (2021) defined openness to change values to be the direction an individual takes based on their independent decisions. Karimi and Makreet (2020) highlighted that consumer's openness to change value supports their belief and guides them toward behaviors that align with their values. In relation to this study, it could be posited that since consumers are investing to achieve prestige and status, it simultaneously opens them to the possibility of attaining financial income through trades in a vessel, an online investment platform. Therefore, the different values considered connotates the overall values among individuals with financial interests. Thus, it was hypothesized that:

H7. Values and its higher-order constructs have a significant positive influence on the utility function of the online investment platform.

Ahmed et al. (2022) found that it is essential for companies to consider the perception of what the end users deem to be essential for their experience. Thus, it could be posited that utility function preceded by consumer's value would lead to a positive personal norm. This builds the belief of investors, indicating that the utility function should be within the context of its intended purpose for people to believe in its capability for their intended purpose. Warren (2019) emphasized the importance of understanding the objectives and preferences among investors. The preference of which will serve as the utility function, resulting in a positive behavior if values are achieved. Hence, it was hypothesized that:

H8. Belief in the form of the utility function of the online investment platform has a significant positive influence on the personal norms of the user.

Personal norms in the context of this study are self-imposed morals that indicate an individual's behavior in the online investing platform. Moghavvemi et al. (2020) established the relationship between personal norms and intention; wherein an individual's personal norm is tied to their sense of obligation. When consumers feel morally compelled to act a certain way, it will significantly influence their intention to use a product or service. In addition, the results of Turner et al. (2023) implied that when consumers perceive their behavior to be morally correct, their intention to consistently follow these practices also amplifies. Thus, it was hypothesized that:

H9. Personal norms of online investment platforms significantly influence the user's intention to invest.

Subsequently, the study of Minton et al. (2018) emphasized the significance of social norms in influencing personal behavior. In this study's context, social norm refers to the pressure and expectation of society to the users of online investing platforms. It was explained that the social perception of an individual is enough to shape their personal norms; preceded by social norms. In the local context, behavioral intentions are influenced by social norms (Cahigas et al., 2022). Their study explained Filipinos trust, and overall behavior are related with their personal actions and decision. It was presented that when the majority considered a certain service, most of which would also have a positive personal belief. Thus, it was hypothesized that:

H10. Social norms significantly influence personal norms.

Lastly, Ursavaş et al. (2019) discovered a positive relationship between social norms and intention to use technology. It was seen that users placed significance in the opinions of people they respect. Islam et al. (2023) found similar results where social norms significantly influenced the intention to shop online. In relation to this study, it could be posited that the perception of those who are important to an individual will affect their intention to invest. Thus, testing in this study's context, it was hypothesized that:

H11. Social norms of online investment platforms significantly influence the user's intention to invest.

3. Methodology

The overall procedure is presented in Figure 3. The process involved the literature review for a sound variable and hypotheses build-up. Only those under the establish theories were considered and only those significant variables were included. The buildup of measure items and questionnaire was then

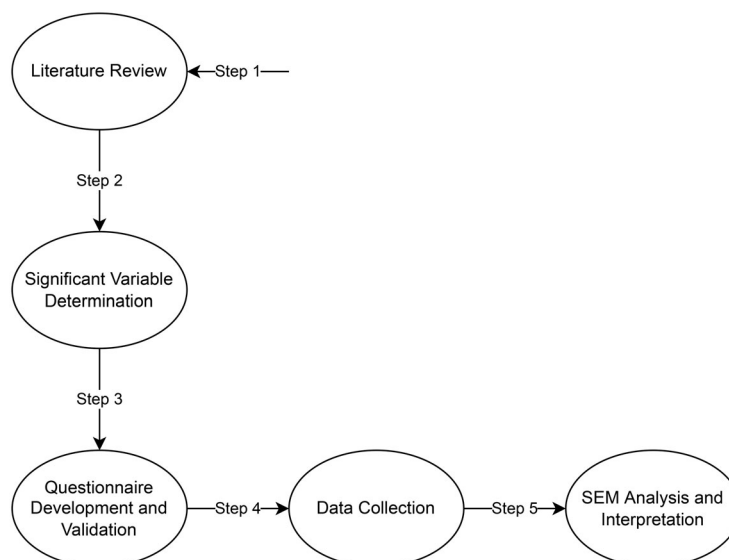


Figure 3. Procedure Flowchart.

considered, set-up for development and validation. After verification, data collection was employed, analyzed for any missing information and data, followed by structural equation analysis and interpretation.

3.1. Participants

The study collected data from a group of 201 respondents who participated voluntarily (Sabri et al., 2023). As suggested by Sabri et al. (2023), utilizing purposive sampling helps to specifically sought individuals with current or past investment experience. Moreover, the respondents are required to be based in the Philippines. This paper has received the written approval of the Mapua University Ethics Committee (FM-RC-23-01-106; November 2023). Moreover, informed consent was obtained from all subjects involved in this study (FM-RC-23-02-106).

The data presented in the study was gathered through an online survey conducted via Google Forms. The questionnaire was distributed among social media platforms of financial investment groups, and only those investing was considered valid respondents with filtering question of 'What investment platforms are you using?'; if people answered none, they will be prompted to the end of the survey. An 80.4% response rate was obtained and considered as valid respondent in this study (201 out of 250 responses collected). The data collected was registered and stored in a password-safe database. The written consent was obtained, and the data will be made available upon request to the corresponding author due to the privacy request of respondents.

Table 1 displays the descriptive statistics of the respondents' demographic profiles. A total of 61.2% are male respondents, while the remaining 38.8% are female. The respondents' age ranges from below 18 years old (4.5%), 18–25 years old (70.1%), 26–35 years old (18.4%), 36–45 years old (2.5%), 46–55 years old (3.5%), and the rest were above 55 years old (1%). The respondents' educational attainment were 22.9% senior high school, 61.7% undergraduate, and 15.4% graduate studies. Their monthly income or allowance are 40.3% less than 10,000 PHP, 18.9% 10,001–20,000 PHP, 10.4% 20,001–30,000 PHP, 8.5% 30,001–40,000 PHP, 4.5% 40,001–50,000 PHP, and 17.4% had upwards of 50,001 PHP. Among standard

Table 1. Demographic profile.

Characteristics	Category	N	%
Sex	Male	123	61.2%
	Female	78	38.8%
Age	Below 18 years old	9	4.50%
	18–25 years old	141	70.1%
	26–35 years old	37	18.4%
	36–45 years old	5	2.50%
	46–55 years old	7	3.50%
	Above 55 years old	2	1.00%
Education Attainment	Junior high school	0	0%
	Senior high school	46	22.9%
	Undergraduate	124	61.7%
	Graduate Studies	31	15.4%
Monthly Income/Allowance	Less than 10,000 PHP	81	40.3%
	10,001–20,000 PHP	38	18.9%
	20,001–30,000 PHP	21	10.4%
	30,001–40,000 PHP	17	8.50%
	40,001–50,000 PHP	9	4.50%
	50,001 PHP and above	35	17.4%
How long have you been investing?	Less than 1 year	106	52.7%
	1–3 years	62	30.8%
	3–5 years	16	8.00%
	More than 5 years	17	8.50%
	Others	14	6.90%
What type of online investing platforms are you using?	Stocks	88	43.8%
	Cryptocurrencies	90	44.8%
	Real Estate	9	4.50%
	Others	14	6.90%
How much is your initial investment?	Less than 10,000 PHP	106	52.7%
	10,001–20,000 PHP	38	18.9%
	20,001–30,000 PHP	21	10.4%
	30,001 and above	36	17.9%
What investment platforms are you using?	Binance	55	27.5%
	Col Financial	17	8.50%
	GCash	14	7.00%
	Others	115	57.0%

structural equation modeling (SEM) studies, the demographic profile represents the collected data for generalizability.

To add, the duration of their investing experience is as follows: 52.7% less than 1 year, 30.8% 1-3 years, 8% 3-5 years, and 8.5% more than 5 years. Consumers are investing in stocks (43.8%), cryptocurrencies (44.8%), and real estate (4.5%). The rest are investing in others (6.9%), such as forex trading, short-term funds, and time deposits, to name a few. Their initial investment amount ranges from 52.7% of less than 10,000 PHP, 18.9% of 10,001-20,000 PHP, 10.4% of 20,001-30,000 PHP, and 17.9% invested more than 300,001 PHP. The OIPs utilized by the respondents were Binance (57%), Col Financial (27.5%), and GCash (8.50%). The remaining invests on various platforms (7%) such as eToro, coins.ph, Coinbase, and more. 77.61% of the consumers agreed that OIPs affect their intention to invest while 22.39% disagreed.

3.2. Questionnaire

The conceptual framework guided the formation of the adapted questionnaire used to analyze the preceding factors affecting online investment behavior. The questionnaire consisted of two parts, the first part is the demographic profile of the respondents, and the second part assessed their behavioral intention to invest through the lens of VBN and SET. Moreover, the questionnaire has a total of 13 latent variables wherein 5 of which belong to SET and 8 to VBN. The latent variables utilized were adapted from past studies with similar conceptual frameworks. It was derived from the works of Atombo and Dzigbordi Wemegah (2021), Cahigas et al. (2022), Devika et al. (2020), Ghazali et al. (2019), Han (2015), Henchoz et al. (2019), Ibtissem (2010), Jeong and Oh (2017), Kennedy et al. (2014), Lee et al. (2021), López-Mosquera and Sánchez (2012), Nordhoff et al. (2021), Rasoolimanesh et al. (2015), Rasoolimanesh et al. (2021), Santoso and Maureen Nelloh (2017), Thomas et al. (2021), Tiglaio et al. (2020), and Zailani et al. (2016). Following their works, this study also used a 5-point Likert Scale that ranged from '1 – Strongly Disagree' to '5 – Strongly Agree'.

Preprocessing of questionnaire was employed before deployment. A pilot test of questionnaire items for validity and reliability was considered. That is, a psychometrician was invited to test out the collated questionnaire. Validation was also made among initial respondents to test out any grammatical errors, difficult to understand items, and overall assessment. Minor changes were needed on the grammar and an overall Cronbach's alpha value was obtained, 0.836 – which was considered to be acceptable (Hair et al., 2019).

3.3. Partial Least Square Structural Equation Modeling

Partial Least Square Structural Equation Modeling (PLS-SEM) is a statistical technique utilized for modeling relationships between latent variables. It is commonly used in the fields of business research, social sciences, and other fields where there is a need to analyze complex multivariate relationships (Memon et al., 2021). In the context of investment behavior, there are multiple factors influencing an individual's intention to invest; creating several path relationships among unobserved variables which could be assessed with sensitive multivariate tools like SEM (Dash & Paul, 2021; Sabri et al., 2023). Moreover, latent variables such as trust, and perceived safety are not directly measurable. PLS-SEM's strength lies in its capability to handle complex relationships that involve multiple variables, and it allows the integration of formative constructs (Hair et al., 2017). As explained by Dash and Paul (2021), PLS-SEM offers a more tactful analysis which is fitting for studies investigating behavioral intention. Hence, this study has employed SMART-PLS v4.0 for the higher-order SEM analyses (Sarstedt et al., 2019).

The methodology employed adopted the process from Dash and Paul (2021), where the calculation involved in SEM was deciphered from the book of Marcoulides (2014). The general steps in processing the PLS-SEM could be generic so it appeals to the general SEM calculation adoption (Dash & Paul, 2021). The first process involves creation and meticulously presenting the measure items. In this study, it was based on the adapted items presented in Section 3.2 – constructed following the modified and integrated SET-VBN frameworks. Second, the measure items underwent a psychometrician-verified test, with Cronbach's alpha initial test output was considered. Third, the data cleaning processes involving the

response of the participants were carried out. That is, 49 responses were removed following a filtering approach, retaining 80.4% explained in [Section 3.1](#). In accordance, initial tests for normality and common method bias were employed for validity. All were deemed reliable and valid, which were considered for the SEM analysis. Fourth, the preparation of construct and model build-up was employed in the SMART-PLS v4.0 software.

The bootstrapping method considering 1000 iterations were considered as the fifth step, presenting a test for the relationship and hypotheses support. Both the relationships found in hypotheses 1 and 11 were deemed insignificant, having p -values greater than 0.05. Moreover, items followed the 0.70 factor loading threshold for a more sensitive analysis (Hair et al., 2019). Performing the PLS Algorithm under the SMART PLS v3.0 software, the factor loadings and validity measures were obtained. Compared to the study of Dash and Paul (2021) who carried out no dropping of low factor loading items, this study prompted to consider the suggestion of Hair et al. (2019) of removing insignificant relationship and measure items. This is done when a confirmatory factor test for filtering was not involved in the process for the initial assessment of factors. To which, AV2, EV2, TV1, OC9, EB1, II2, II3, II5, TR1, TR2, TR6, and UF2 were removed as insignificant measure items, alongside relationships of AC on TR (hypothesis 1) and SN on II (hypothesis 11).

After removal, the bootstrapping and PLS Algorithm under the software was run. All items were seen to now be within the threshold (factor loading ≥ 0.70 ; relationships have p -values $\leq .05$). In addition, all validity measures were recorded. Specifically, the Cronbach's alpha, composite reliability, and average variance extracted for convergent validity; heterotrait-monotrait ratios and Fornell Larcker criterion for discriminant validity; and model fit were obtained from the software output. Evidently to be within the suggested thresholds suggested by studies, the output represented the final SEM considered in this study (Dash & Paul, 2021; Hair et al., 2019). The calculation of SEM employed following one of the original prime movers of the analysis. Convergence under an iterative scheme was employed on the correlational analysis of variable estimation, determination of path, estimates, and loading analyses, which were then considered as aberrations from the average calculation output (Marcoulides, 2014).

4. Results

[Figure 4](#) presents the initial SEM for assessing the behavioral intention of consumers to invest using OIPs. Hypotheses that have a p -value of greater than 0.05 are deemed to be insignificant which is characterized by broken lines; as well as factors having values less than 0.70 (Dash & Paul, 2021). Following this, H1 and H10 were found to have nonsignificant relationship after running the initial SEM. These will be removed to improve the SEM's model fit and represent the final SEM (Hair, 2010).

[Table 2](#) shows the descriptive statistics of the model's indicators and its factor loadings. According to Dash and Paul (2021), latent variables need to meet a minimum of 0.70 in their factor loading to suggest a strong relationship between the observed variables and constructs. Therefore, the measurement items that did not meet this are removed from the final factor loading. While accessibility's factor loading meets this requirement, it was removed due to its insignificant relationship on trust.

[Figure 5](#) displays the final SEM for this study. It presents that perceived safety, economic benefit, and financial management have a significant relationship with trust. Moreover, values consist of altruistic, egoistic, traditional, and openness to change. Collectively, these values significantly affect belief as a utility function. In turn, belief as utility function and social norm has a significant relationship with personal norm. Wherein consumer's trust in OIPs and personal norm significantly affects their intention to invest. All R^2 values are seen to be greater than 20%, which indicates that the model is sufficient in predicting consumers' intention to invest (Gumasing & Castro, 2023).

Shown in [Table 3](#) is the convergent validity. Hair (2010) established that the Cronbach's alpha and composite reliability of a study must possess a value of greater than 0.7 to be presented as an acceptable measure. Similarly, the average variance extracted must be higher than 0.5. Thus, the convergent reliability and validity of the variables were deemed to be acceptable.

To further validate the constructs, [Table 4](#) presents the Fornell-Lacker Criterion (FLC) and [Table 5](#) displays the Heterotrait-Monotrait Ratio (HTMT) wherein both were utilized to assess discriminant validity. Hamid et al. (2017) stated that to conclude discriminant validity in FLC, its diagonal values must be

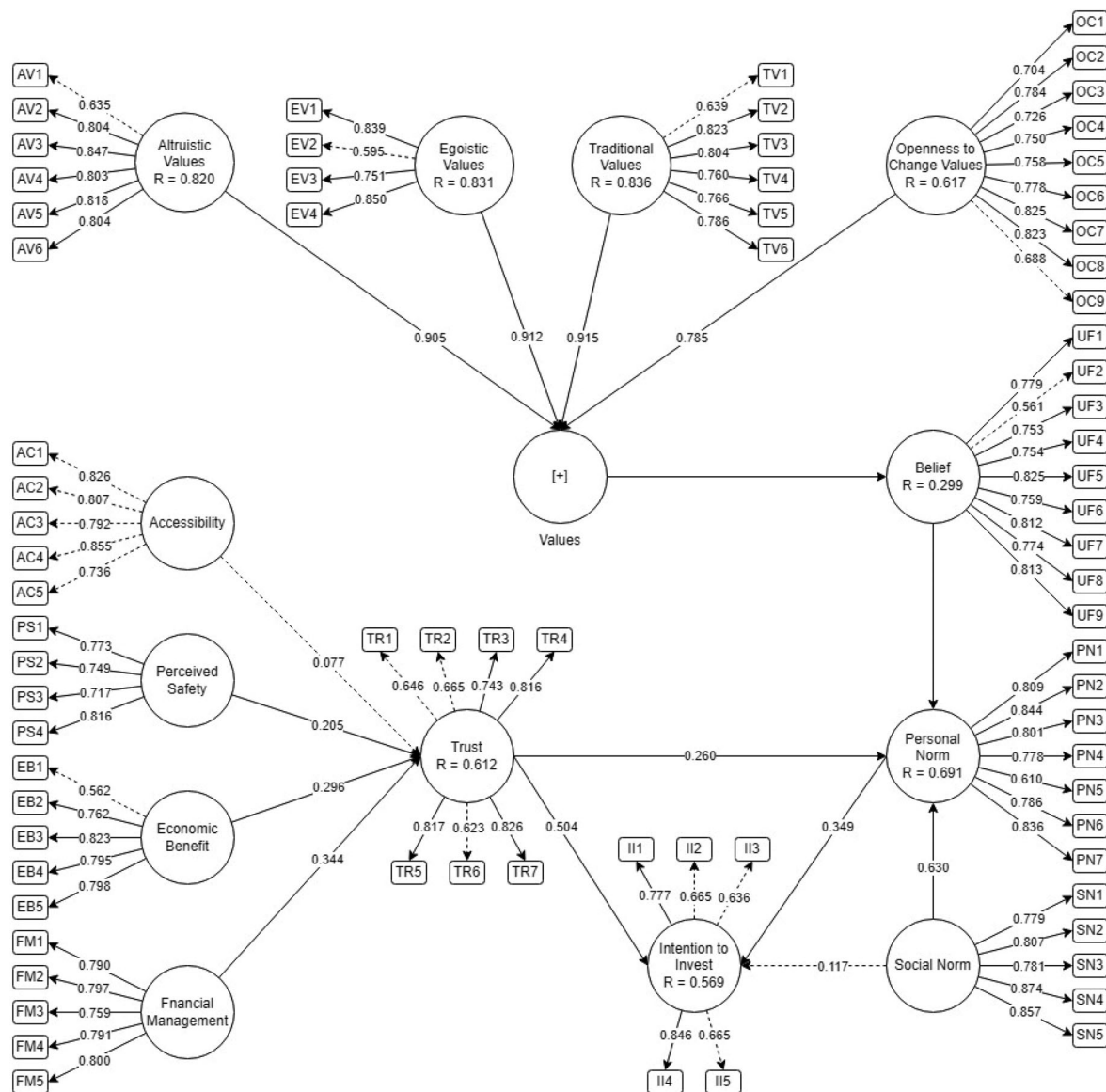


Figure 4. Initial Structural Equation Modeling.

higher than the values in its corresponding rows and columns. Additionally, Kline (2016) established that discriminant validity can further be supported when HTMT values are observed to be lower than the 0.85 threshold.

Lastly, Table 6 shows the model fit indices and Table 7 summarizes the results of the hypotheses, including the higher order. Since the estimates of the parameters are within the suggested threshold, the model to assess the behavioral intention of consumers to invest is deemed acceptable. As presented, 8 out of 10 hypotheses were accepted and the discussion are presented in the succeeding section.

5. Discussion

The lack of literature on OIPs, especially in the Philippines drove the inspiration for the focalized study since the development, rise, and continued utility are present in the country. With the use of established theoretical backgrounds on SET and VBN among literatures, it was seen that the overall output has been validated for implication. As a reflection to the positive overall effect found on the intention to invest among Filipinos, it was presented that knowledge on the technological sharing and learning promoted the innovation among organizations. It could therefore be posited that the ability, perception, and knowledge by Filipinos relate to their investment intentions.

Table 2. Indicators statistical analysis.

Variable	Code	Mean	StD	Factor Loading	
				Initial	Final
Accessibility	AC1	4.358	0.887	0.826	–
	AC2	4.408	0.830	0.807	–
	AC3	4.348	0.874	0.792	–
	AC4	4.348	0.827	0.855	–
	AC5	4.353	0.886	0.736	–
Perceived safety	PS1	3.896	1.067	0.773	0.776
	PS2	3.806	1.035	0.749	0.744
	PS3	4.398	0.835	0.717	0.703
	PS4	4.025	0.933	0.816	0.828
Economic benefit	EB1	4.015	0.872	0.562	–
	EB2	3.950	0.966	0.762	0.805
	EB3	4.020	0.957	0.823	0.828
	EB4	4.035	0.825	0.795	0.823
	EB5	4.149	0.971	0.798	0.819
Financial management	FM1	4.219	0.926	0.790	0.789
	FM2	4.040	0.851	0.797	0.796
	FM3	4.279	0.780	0.759	0.756
	FM4	3.925	0.987	0.791	0.792
	FM5	4.090	0.842	0.800	0.802
Trust	TR1	4.239	0.800	0.646	–
	TR2	4.085	0.885	0.665	–
	TR3	4.055	0.836	0.743	0.772
	TR4	4.035	0.866	0.816	0.837
	TR5	4.005	0.878	0.817	0.849
	TR6	3.831	1.008	0.623	0.855
	TR7	4.040	0.863	0.826	–
Intention to invest	II1	3.980	1.093	0.777	0.852
	II2	3.667	1.033	0.665	–
	II3	3.607	1.037	0.636	–
	II4	3.866	1.035	0.846	0.911
	II5	3.876	1.007	0.665	–
Altruistic values	AV1	3.856	1.104	0.635	–
	AV2	3.159	1.148	0.804	0.813
	AV3	3.104	1.156	0.847	0.856
	AV4	3.716	1.130	0.803	0.800
	AV5	3.453	1.146	0.818	0.822
	AV6	3.348	1.288	0.804	0.825
Egoistic values	EV1	3.831	1.147	0.839	0.869
	EV2	2.622	1.392	0.595	–
	EV3	3.970	1.012	0.751	0.788
	EV4	3.194	1.280	0.850	0.835
Traditional values	TV1	4.229	0.950	0.639	–
	TV2	3.527	1.107	0.823	0.839
	TV3	3.682	1.253	0.804	0.800
	TV4	3.254	1.242	0.760	0.790
	TV5	3.622	1.073	0.766	0.775
	TV6	3.786	1.154	0.786	0.785
Openness to change values	OC1	3.493	1.404	0.704	0.724
	OC2	3.841	1.029	0.784	0.786
	OC3	4.239	0.848	0.726	0.726
	OC4	4.269	0.907	0.750	0.746
	OC5	3.950	1.035	0.758	0.759
	OC6	3.841	1.034	0.778	0.782
	OC7	4.035	1.004	0.825	0.828
	OC8	4.060	1.016	0.823	0.822
	OC9	4.149	0.991	0.688	–
Belief	UF1	3.841	1.117	0.779	0.789
	UF2	4.333	0.831	0.561	–
	UF3	4.090	0.899	0.753	0.752
	UF4	4.060	0.901	0.754	0.753
	UF5	4.060	0.901	0.825	0.828
	UF6	4.209	0.796	0.759	0.757
	UF7	4.139	0.817	0.812	0.807
	UF8	3.940	1.044	0.774	0.777
	UF9	4.045	0.877	0.813	0.814
Personal norm	PN1	3.547	1.253	0.809	0.830
	PN2	3.463	1.222	0.844	0.860
	PN3	3.572	1.228	0.801	0.820
	PN4	2.990	1.297	0.778	0.794
	PN5	4.020	1.041	0.610	–
	PN6	3.692	1.099	0.786	0.752

(continued)

Table 2. Continued.

Variable	Code	Mean	StD	Factor Loading	
				Initial	Final
Social norm	SN1	3.597	1.235	0.836	0.836
	SN2	3.488	1.297	0.779	0.782
	SN3	3.373	1.268	0.807	0.810
	SN4	3.910	1.018	0.781	0.778
	SN5	3.771	1.217	0.874	0.872

From the results, social norms had a significant effect on personal norms ($\beta:0.65$, $p < .001$) but did not have a direct effect on the intention to invest ($\beta:0.117$, $p = .011$). This represents that for social norms to influence intention, it should affect the personal norm first. Based on the constructs, consumers claimed that other people have the impression and expectation for them to be engaged in any form of investing. Similarly, the people they respect and deem important are investing and recommend it to them. Sia and Jose (2019) established that a normative influence positively affects an individual's obligation, which leads them to follow their norm. Moreover, Gkargkavouzi et al. (2019) conducted a study on the intention to adopt eco-friendly practices and found the crucial role of personal norms. Their study highlights that perceived social pressures from influential individuals can significantly affect personal beliefs, which, in turn, will impact adoption intention. Concerning this study, other people's perceptions of investing will affect an individual's investment objective.

Values were deemed significant ($\beta:0.571$, $p < .001$), which caused the latent variable to affect the beliefs as utility function directly. Traditional values were found to be significant ($\beta:0.91$, $p < .001$). Consumers view investment as a means to socialize, achieve prestige, and social recognition. Investing also allows them to obtain power and do anything they want. These perceptions of investments and what they allow them to do make it so that they are prepared to obtain money by any means they can in order for them to invest. Zong et al. (2023) supported this by stating that consumers are more likely to purchase a product if it aligns with their traditional values. In contrast, Khan et al. (2019) found the relationship between traditional values and an individual's behavioral intention, say to recycle plastic, waste insignificant. Even though these individuals understand the importance of recycling, they do not recycle because it will not warrant any financial reward for active participation. In the context of this study, it could be posited that individuals may not likely invest if it does not give benefits such as what the results gave.

Consumer's egoistic values were also significant ($\beta:0.909$, $p < .001$). Their strong egoistic values lead them to have the intention to invest because it allows them to influence and lead other people. In addition, investments enable consumers to own tangible items and financial assets. Prakash et al. (2019) supported the significant relationship between egoistic values and behavioral intention. It was highlighted that egoistic values are crucial in a consumer's decision to purchase organic food. However, altruistic values played a more dominant role in affecting an individual's intention compared to this study. Roos and Hahn (2017) displayed the significance of egoistic values through the consumer's economic motives (ie cost savings). Their desire for tangible wealth and authority heightens their intention to participate in collaborative consumption.

For openness to change values ($\beta:0.834$, $p < .001$), individuals invest in OIPs because it enables them to attain self-respect and independence. It allows them to enjoy life at a higher level by living a varied and exciting life by letting them choose their own goals, expanding their creative thinking, and urging them to be curious. Purc and Laguna (2019) highlighted the insignificant relationship between openness to change values and an employee's behavioral intention to innovate. It was explained that innovative behavior entails creativity and the support of ideas that demand cooperation from other colleagues. However, Schwartz (1992) established a theory wherein openness to change significantly correlates with creativity and innovation. The theory suggests that individuals are encouraged by their strong openness to change values to act creatively and innovatively. With this study, consumers invest because they intend to live according to their preferences. They perceive investing via OIPs will allow them to explore and inevitably change. As a reflection, it is needed by developers to understand the key roles of investors, their perception, and understanding to enhance sustainability in the Philippines.

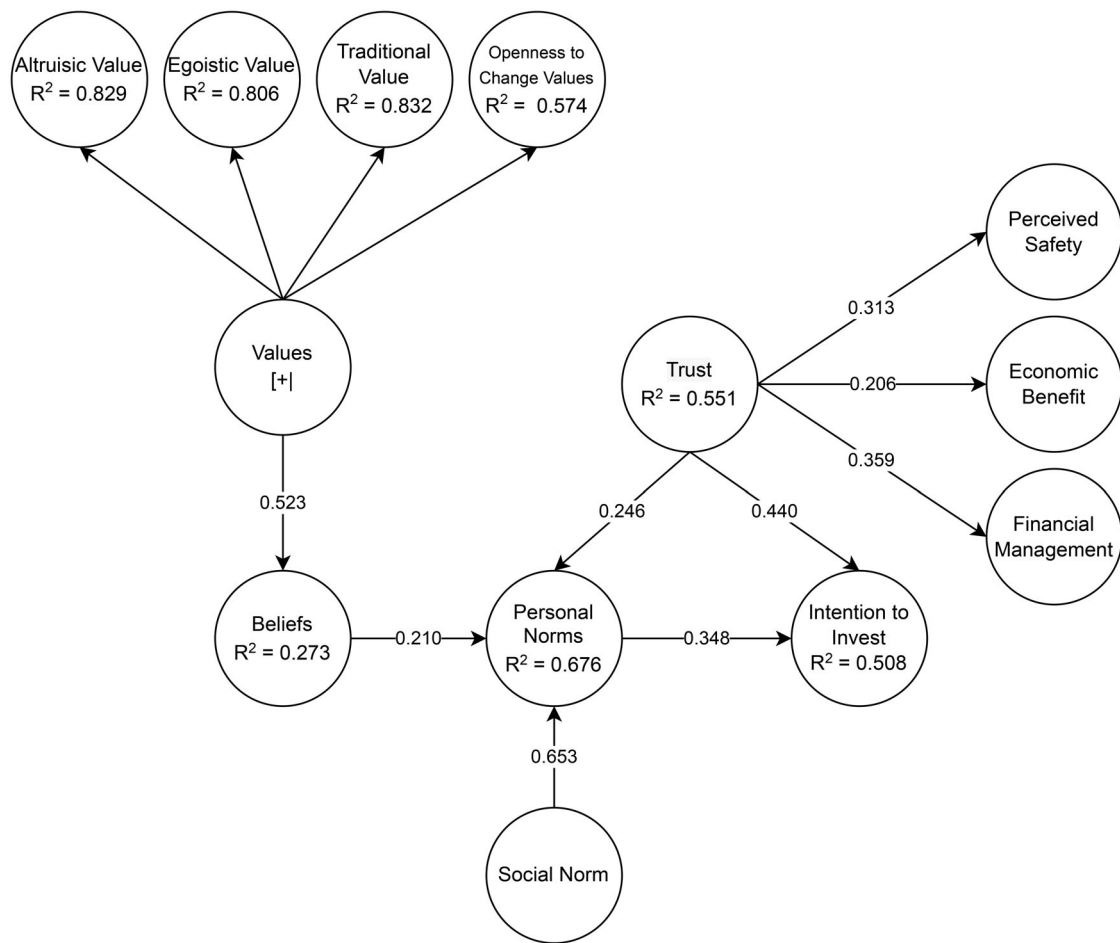


Figure 5. Final Structural Equation Modeling.

Table 3. Convergent validity.

Variable	Cronbach's Alpha	Composite reliability	Average variance extracted (AVE)
Altruistic value	0.881	0.913	0.677
Egoistic value	0.778	0.871	0.693
Economic benefit	0.838	0.891	0.670
Financial management	0.848	0.891	0.620
Intention to invest	0.719	0.875	0.778
Openness to change value	0.900	0.921	0.626
Perceived safety	0.767	0.848	0.584
Personal norm	0.899	0.923	0.666
Subjective norm	0.878	0.911	0.673
Traditional value	0.857	0.897	0.636
Trust	0.848	0.898	0.687
Utility function	0.911	0.928	0.617
Values	0.934	0.943	0.559

Furthermore, altruistic values were also deemed significant ($\beta: 0.819, p < .001$). Investors find that their investments have a positive influence on the well-being of others. Their individual beliefs include liberating the world from warfare and addressing social injustice. Moreover, they believe investments allow them to assist those in need, show loyalty to their companions, and display respect for their elders. Prakash et al. (2019) concluded that consumers will continually do the intention of something if they believe that their action benefits themselves and those around them. Jang and Cho (2022) saw the significance of altruistic values to purchase intention through anticipated positive effects. Their study explained that consumers are more likely to purchase a product if they anticipate it to impact their environment positively. However, this study highlighted more on the key financial exchange and benefits more for intention compared to the environmental benefits.

Table 4. Fornell-Lacker criterion.

	AV	EV	EB	FM	II	OC	PS	PN	SN	TV	TR	UF	Values
AV	0.823												
EV	0.760	0.833											
EB	0.416	0.494	0.819										
FM	0.422	0.452	0.583	0.787									
II	0.504	0.589	0.562	0.614	0.882								
OC	0.602	0.680	0.484	0.563	0.635	0.791							
PS	0.311	0.329	0.478	0.596	0.594	0.444	0.764						
PN	0.644	0.708	0.396	0.441	0.602	0.612	0.410	0.816					
SN	0.518	0.598	0.302	0.329	0.482	0.523	0.245	0.769	0.82				
TV	0.683	0.787	0.413	0.425	0.557	0.684	0.331	0.747	0.635	0.798			
TR	0.414	0.474	0.565	0.665	0.630	0.490	0.626	0.494	0.289	0.420	0.829		
UF	0.415	0.543	0.357	0.546	0.505	0.551	0.499	0.558	0.475	0.525	0.634	0.785	
Values	0.719	0.709	0.507	0.530	0.650	0.734	0.408	0.770	0.660	0.691	0.505	0.571	0.747

Table 5. Heterotrait-Monotrait ratio.

	AV	EV	EB	FM	II	OC	PS	PN	SN	TV	TR	UF	Values
AV													
EV	0.810												
EB	0.479	0.609											
FM	0.477	0.549	0.687										
II	0.625	0.782	0.716	0.774									
OC	0.665	0.806	0.554	0.639	0.773								
PS	0.353	0.414	0.572	0.718	0.782	0.532							
PN	0.720	0.842	0.449	0.490	0.733	0.667	0.485						
SN	0.580	0.715	0.340	0.374	0.600	0.578	0.294	0.817					
TV	0.785	0.763	0.481	0.489	0.702	0.765	0.404	0.848	0.727				
TR	0.474	0.583	0.659	0.768	0.798	0.560	0.741	0.564	0.333	0.488			
UF	0.453	0.643	0.399	0.617	0.608	0.609	0.583	0.613	0.521	0.588	0.723		
Values	0.837	0.663	0.571	0.591	0.787	0.801	0.475	0.836	0.724	0.815	0.565	0.613	

Table 6. Model fit indices.

Parameters	Estimates	Suggested Cut-off	Recommended by
SRMR	0.076	<0.08	Hu and Bentler (1999)
Chi-Square	3.512	<5.00	Hooper (2008)
Normal Fit Index	0.912	>0.90	Baumgartner and Homburg (1996)

Table 7. Hypotheses results.

Hypothesis	Relationship	Beta	p-value	Decision
1	AC → TR	0.078	.231	Reject
2	PS → TR	0.313	<.001	Accept
3	EB → TR	0.207	.002	Accept
4	FM → TR	0.358	<.001	Accept
5	TR → II	0.441	<.001	Accept
6	Values → UF	0.571	<.001	Accept
7	UF → PN	0.249	<.001	Accept
8	PN → II	0.384	<.001	Accept
9	SN → PN	0.650	<.001	Accept
10	SN → II	0.117	.011	Reject
Higher-Order	AV → Values	0.819	<.001	Accept
Higher-Order	EV → Values	0.909	<.001	Accept
Higher-Order	TV → Values	0.910	<.001	Accept
Higher-Order	OC → Values	0.834	<.001	Accept

Among the lower-ordered constructs, it was seen that trust in OIPs significantly influences users' intention to invest ($\beta:0.440$, $p<.001$) and personal norms ($\beta:0.248$, $p<.001$). Based on the established measurement items, users feel comfortable navigating the platform because they are satisfied with the current state of their selected OIPs. The platform's reliability leads investors to trust it with their investments. Rehman et al. (2019) supported the findings of this study by stating that trust is significant in assessing consumers' intention to purchase from an online platform. Wherein, consumers tend to have their purchase intention improved when they perceive the platform to be trustworthy – building personal norms. In this study, the respondents established trust in OIPs (ie Binance) because they can reimburse the investors from their insurance fund if they lose assets or funds (Barley, 2024). The set

assurance promoted the high effects of the relationship between trust and personal norms, but more on their behavioral intention. This indicates that there is the higher relationship of trust on intention rather than personal norms when mediating effects are observed.

Similarly, personal norms significantly affect consumer's intention to invest ($\beta:0.384$, $p < .001$). Respondents believed they must invest as much as possible regardless of what others may think. In addition, they always feel obliged to think about the state of their investments. Interestingly, the respondents stated that they feel guilty when not investing because they think of missed investment opportunities. As Lee et al. (2023) explained, individuals who participate in platforms they believe align with their norms are more likely to display positive behavior toward them. As opposed to this, Hui-Wen Chuah et al. (2022) discovered that personal norms weaken consumers' intention to repurchase, but only when trust is not established.

Meanwhile, the financial management of OIPs has a significant relationship with user's trust ($\beta:0.358$, $p < .001$). Investors claimed to follow the best practices and apply financial management strategies when investing online. In order to safeguard their investments, investors hold financial management as a top priority. Therefore, they trust the commitment of OIPs regarding their financial well-being. Purwidiyanti et al. (2019) stated that financial experiences such as employing credit and savings improve one's financial knowledge, which betters an individual's financial management. This increases a consumer's intention to invest through their newfound knowledge. Furthermore, financial knowledge will lead the consumer to ask more questions regarding the OIPs, leading to trust (Hansen, 2012). Previous studies also found this relationship positively correlated (Cook et al., 2010; Puspa & Kuhl, 2006). Hussain Al-Hashimy et al. (2022) highlighted that their financial management must be adequately assessed first to measure financial performance. Wherein, financial management directly affects their financial performance through behavioral intention. Their study suggested that proper financial management will positively influence the intention to perform better financially.

A significant factor in building trust was the consumer's perceived safety of OIPs ($\beta:0.313$, $p < .001$). The results showed that users of OIPs invest in their selected platforms because online attacks and data leaks seldom happen. Moreover, they feel secure while navigating the platform since they follow the safety measures dictated by the creators of the OIPs. Regarding the OIPs utilized by the respondents, such as Binance, perceived safety is seen because it is the leading cryptocurrency exchange in volume (Kurkinen, 2023). Furthermore, Binance offers various security features, such as security notifications through email, hardware two-factor authentication, and a real-time monitoring system that detects suspicious activity (Blackstone & Turner, 2023). Thus, consumers perceive the platform as safe, highlighting through the different authentication features.

The belief as utility function of OIPs significantly affects consumer's personal norms ($\beta:0.249$, $p < .001$). Based on the results, investors use diverse online investment technologies and intend to utilize various OIPs that align with their values, preferences, and financial needs for trading. Their preferences in OIPs include versatility in trading applications and providing value as trading tools. Using platforms that align with their preferences is crucial because it instills confidence in them, which can make for financial gains. Ye et al. (2022) found similar results where positive behavior is seen from the consumers when their preferences are achieved. In relation to this study, consumers of OIPs prioritize their preferences when investing and only intend to do so when these preferences are aligned.

The findings also revealed that the economic benefit of OIPs is significant in garnering trust toward the platform ($\beta:0.207$, $p = .002$). While investing, respondents saw substantial financial gain due to their successful trades. Moreover, it was seen as financial income, and they could save money. OIPs enabled the respondents to gain more money. Hence, they concluded that increasing the frequency of investing would result in positive economic gain. Khuong et al. (2022) discovered that consumers will continually use financial services when they serve to benefit them, including reducing costs and increasing profits. Nwakaji and Goh (2021) had similar results where they emphasized the significance of economic benefits on consumers' purchase intention. They stated that consumers are highly motivated to purchase products that benefit them economically.

Interestingly, the accessibility of OIPs has presented no significant effect on trust ($\beta:0.078$, $p = .231$). The OIPs used by the respondents may be available 24/7 or on weekdays and weekends. In addition, these OIPs have substantial resources available to them throughout the internet. Their chosen OIPs also have sufficient server capacity to hold smooth transactions amidst high-traffic periods – as evident from

the measure items. Furthermore, consumers have a range of payment methods. However, it could be posited that consumers will only trust a system if it is perceived to be reliable. Despite these OIPs being widely available, it could be deduced that consumers may still not know how to access them – leading to the insignificant relationship. Deley and Dubois (2020) stated that consumers will only exhibit positive behavior when the technological platform is accessible. Likewise, Zhou et al. (2022) highlighted that the relationship between a system's reliability and the trust of consumers is directly proportional.

5.1. Theoretical implications

The framework utilized in the current study is an integration of SET and VBN. Ahmad et al. (2023) stated that SET lacks the theoretical precision needed to accurately predict behavioral intention which is caused by its unidimensional nature. To combat this, the study employed a two-dimension approach using VBN. However, there is scarce literature regarding the utilization of VBN in various studies since it is usually employed in environmental-related behavioral studies. Individually, VBN only assesses the causal chain of behavior when a series of variables are present, and SET could only provide the evaluation of value and cost. Thus, with the integration of both, it was proven that the framework could predict behavior and comprehend the relationship between perceived values and costs – reflecting on the exchange among social aspects. It could be posited that the current study proved the utility of these theories outside of their usual context.

5.2. Practical and managerial implications

Based on the empirical findings, it could be seen that trust and personal norms are the main variables that positively affect consumers' behavioral intention to invest. Despite how widely available information is regarding OIPs, there is a need to change how stakeholders promote their platforms. This will inform the investors on how to access their platforms, which may lead to accessibility on having significant relationship with trust. Likewise, investors' trust positively affects their intention to invest. Moreover, social norms should be improved since they have one of the least significant relationships. It is suggested that the promotional aspects of OIPs and features that highlight collaborative investing, such as reference codes, be increased. Social norms may directly affect intention when the perceptions of those important to the consumer are strengthened. The significance between economic benefit and trust was seen to be low due to the financial literacy of Filipinos. Developers may combat this by conducting educational seminars for the consumers of their platform. This increases the financial knowledge of investors and allows them to make more intelligent trades, leading to a higher economic benefit. Similarly, an increased economic benefit may also lead to a higher significance to trust.

6. Conclusion

Overall, it could be deduced that consumers of OIPs intend to increase the frequency of their investments. More so when they believe that there is a strong exchange of economic and financial aspects. Investors would therefore have the confidence that their intention to invest is strong regardless of the current market conditions. However, the need for investment platforms to highlight consumers' overall satisfaction with the platform's current state, perception of being safe, the investment views of those whom the consumer respects, and the ability to influence people through investments are needed to establish continuous behavioral intention among consumers. Ultimately, they invest with the purpose of carrying out essential financial activities.

This study was able to generalize output among investors in the Philippines, however with certain limitations as presented: first, more sample size may be considered for promotion of a more generalized context in the country as this study only limited the data from investors and focused on the most collected data (ie binance) which may not holistically assess other behavior. Second, age may be more diverse to identify significant differences among demographic characteristics. As a reflection from Schumacher et al. (2024), demographic characteristics such as sex and age may be influential factors affecting specific outcomes. Similarly, the location may be an area where future research could diversify and create a more holistic generalizability. This way, trust among other variables may really be

considered as the most influential factor across countries. Future researchers may look at other variables which could also affect investment intention and not solely based on self-reported data. In addition, extended variables through qualitative analysis or interviews may be considered by future researchers to decipher or discover significant factors affecting intention to invest.

CRediT authorship contribution statement

E.S.C., A.K.S.O., J.F.T.D., J.D.G., M.J.J.G.: Conceptualization;
 E.S.C., A.K.S.O.: Data curation;
 E.S.C., A.K.S.O., J.F.T.D., J.D.G., M.J.J.G.: Formal analysis;
 E.S.C., A.K.S.O., J.F.T.D., J.D.G., M.J.J.G.: Investigation;
 E.S.C., A.K.S.O.: Methodology;
 E.S.C., A.K.S.O., J.F.T.D., J.D.G.: Project administration;
 E.S.C., A.K.S.O., J.F.T.D., J.D.G., M.J.J.G.: Resources;
 E.S.C., A.K.S.O., J.F.T.D., J.D.G.: Software;
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References

- Abbas, J., Mamirkulova, G., Al-Sulaiti, I., Al-Sulaiti, K. I., & Dar, I. B. (2024). Mega-infrastructure development, tourism sustainability and quality of life assessment at world heritage sites: catering to COVID-19 challenges. *Kybernetes*, 53(2), 1–14. <https://doi.org/10.1108/K-07-2023-1345/full/html>
- Agarwal, D., Bansal, S., Jain, A., & Jain, S. (2022). A study on investment behavior of individual investors with reference to Delhi-NCR. SSRN. <https://ssrn.com/abstract=4109698>
- Agcaoili, L. (2020). Pinoys need to improve financial literacy. BSP. Philstar.com. <https://www.philstar.com/business/2020/07/14/2027722/pinoys-need-improve-financial-literacy-bsp>
- Aharon, D. Y., & Qadan, M. (2020). When do retail investors pay attention to their trading platforms? *The North American Journal of Economics and Finance*, 53, 101209. <https://doi.org/10.1016/j.najef.2020.101209>
- Ahmad, R., Nawaz, M. R., Ishaq, M. I., Khan, M. M., & Ashraf, H. A. (2023). Social exchange theory: Systematic review and future directions. *Frontiers in Psychology*, 13, 1015921. <https://doi.org/10.3389/fpsyg.2022.1015921>
- Ahmed, V., Saboor, S., Ahmad, N., & Ghaly, M. (2022). A multi-attribute utility decision support tool for a smart campus—UAE as a case study. *Frontiers in Built Environment*, 8, 1044646. <https://doi.org/10.3389/fbuil.2022.1044646>
- Atombo, C., & Dzibordi Wemegah, T. (2021). Indicators for commuter's satisfaction and usage of high occupancy public bus transport service in Ghana. *Transportation Research Interdisciplinary Perspectives*, 11, 100458. <https://doi.org/10.1016/j.trip.2021.100458>
- Barley, J. (2024). Binance exchange security 2024: Is Binance still safe? *Coin Bureau*. <https://www.coinbureau.com/analysis/binance-exchange-security/>
- Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International Journal of Research in Marketing*, 13(2), 139–161. [https://doi.org/10.1016/0167-8116\(95\)00038-0](https://doi.org/10.1016/0167-8116(95)00038-0)
- Benignos, M. G. M..., & Navarro, M. M. (2020). Evaluation of online stock trading platforms for Filipino investors <https://ieomsociety.org/detroit2020/papers/612.pdf>
- Blackstone, T., & Turner, G. (2023). *Is Binance a safe crypto exchange?* Security.org. <https://www.security.org/digital-safety/is-binance-safe/>
- Cahigas, M. M., Prasetyo, Y. T., Persada, S. F., Ong, A. K., & Nadlifatin, R. (2022). Understanding the perceived behavior of public utility bus passengers during the era of covid-19 pandemic in the Philippines: Application of social exchange theory and theory of planned behavior. *Research in Transportation Business & Management*, 45, 100840. <https://doi.org/10.1016/j.rtbm.2022.100840>
- Cao, J., Lin, L., Zhang, J., Zhang, L., Wang, Y., & Wang, J. (2021). The development and validation of the perceived safety of intelligent connected vehicles scale. *Accident; Analysis and Prevention*, 154, 106092. <https://doi.org/10.1016/j.aap.2021.106092>
- Cao, X., Yu, L., Liu, Z., Gong, M., & Luqman, A. (2018). Understanding mobile payment users' continuance intention: A trust transfer perspective. *Internet Research*, 28(2), 456–476. <https://doi.org/10.1108/IntR-11-2016-0359>
- Cook, F. L., Jacobs, L. R., & Kim, D. (2010). Trusting what you know: Information, knowledge, and confidence in social security. *The Journal of Politics*, 72(2), 397–412. <https://doi.org/10.1017/S0022381610000034>
- Cordero, T. (2020). BSP's Diokno: 75% or 54m Filipinos don't have investments. *Money | GMA News Online*. <https://www.gmanetwork.com/news/money/economy/761120/bsp-s-diokno-75-or-54m-filipinos-don-t-have-investments/story/?amp>
- Dabbous, A., & Tarhini, A. (2019). Assessing the impact of knowledge and perceived economic benefits on sustainable consumption through the sharing economy: A sociotechnical approach. *Technological Forecasting and Social Change*, 149, 119775. <https://doi.org/10.1016/j.techfore.2019.119775>
- Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, 173, 121092. <https://doi.org/10.1016/j.techfore.2021.121092>
- Deley, T., & Dubois, E. (2020). Assessing trust versus reliance for technology platforms by systematic literature review. *Social Media + Society*, 6(2), 205630512091388. <https://doi.org/10.1177/2056305120913883>
- Devika, R., Harikrishna, M., & Anjaneyulu, M. V. (2020). Influence of psychological factors in mode choice decision making: A structural equation modeling approach. *Transportation Research Procedia*, 48, 2821–2830. <https://doi.org/10.1016/j.trpro.2020.08.236>
- Fintech News Philippines. (2023). *Fintech Philippines Report 2022 highlights the rise of crypto and advent of Digibanks*. <https://fintechnews.ph/54791/fintechphilippines/fintech-philippines-report-2022-highlights-the-rise-of-crypto-and-advent-of-digibanks/>
- Fintech News Singapore. (2022). *Top online trading & investing platforms in South East Asia that you should consider*. <https://fintechnews.sg/64369/trading/top-online-trading-investing-platforms-in-south-east-asia-that-you-should-consider/>

- Ford, K., Bellis, M. A., Judd, N., Griffith, N., & Hughes, K. (2022). The use of mobile phone applications to enhance personal safety from interpersonal violence – An overview of available smartphone applications in the United Kingdom. *BMC Public Health*, 22(1), 1158. <https://doi.org/10.1186/s12889-022-13551-9>
- Ghazali, E. M., Nguyen, B., Mutum, D. S., & Yap, S.-F. (2019). Pro-Environmental behaviours and value-belief-norm theory: Assessing unobserved heterogeneity of two ethnic groups. *Sustainability*, 11(12), 3237. <https://doi.org/10.3390/su11123237>
- Gkargkavouzi, A., Halkos, G., & Matsiori, S. (2019). Environmental behavior in a private-sphere context: Integrating theories of planned behavior and value belief norm, self-identity and habit. *Resources, Conservation and Recycling*, 148, 145–156. <https://doi.org/10.1016/j.resconrec.2019.01.039>
- Gumasing, M. J., & Castro, F. M. (2023). Determining ergonomic appraisal factors affecting the learning motivation and academic performance of students during online classes. *Sustainability*, 15(3), 1970. <https://doi.org/10.3390/su15031970>
- Hair, J. F. (2010). *Multivariate data analysis: A global perspective*. Pearson Prentice Hall.
- Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. (2017). An updated and expanded assessment of PLS-SEM in Information Systems Research. *Industrial Management & Data Systems*, 117(3), 442–458. <https://doi.org/10.1108/IMDS-04-2016-0130>
- 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>
- Hamid, A., Sami, W., & Sidek, M. (2017). Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion. *Journal of Physics: Conference Series*, 890, 012163. <https://doi.org/10.1088/1742-6596/890/1/012163>
- Han, H. (2015). Travelers' pro-environmental behavior in a green lodging context: Converging value-belief-norm theory and the theory of planned behavior. *Tourism Management*, 47, 164–177. <https://doi.org/10.1016/j.tourman.2014.09.014>
- Hansen, T. (2012). Understanding trust in financial services. *Journal of Service Research*, 15(3), 280–295. <https://doi.org/10.1177/1094670512439105>
- Henchoz, C., Coste, J., & Wernli, B. (2019). Culture, money attitudes and economic outcomes. *Swiss Journal of Economics and Statistics*, 155(1), 2. <https://doi.org/10.1186/s41937-019-0028-4>
- Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology*, 63(6), 597–606. <https://doi.org/10.1086/222355>
- Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6(1), 53–60.
- Hossain, T., & Siddiqua, P. (2022). Exploring the influence of behavioral aspects on stock investment decision-making: A study on Bangladeshi individual investors. *PSU Research Review*. <https://doi.org/10.1108/PRR-10-2021-0054>; ISSN: 2399-1747.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Hui-Wen Chuah, S., Sujanto, R. Y., Sulistiawan, J., & Cheng-Xi Aw, E. (2022). What is holding customers back? assessing the moderating roles of personal and social norms on CSR's routes to Airbnb repurchase intention in the Covid-19 era. *Journal of Hospitality and Tourism Management*, 50, 67–82. <https://doi.org/10.1016/j.jhtm.2021.12.007>
- Hussain Al-Hashimy, H. N., Alabdullah, T. T., Ahmed, E. R., Asmar, M., Ibrahim Nor, M., & M. Jamal, K. A. (2022). The impact of financial management elements and behavioral intention on the financial performance. *International Journal of Scientific and Management Research*, 05(12), 117–149. <https://doi.org/10.37502/IJSMR.2022.51210>
- Ibtissem, M. H. (2010). Application of value beliefs norms theory to the energy conservation behaviour. *Journal of Sustainable Development*, 3(2), 129. <https://doi.org/10.5539/jsd.v3n2p129>
- Iorember, P. T., Gbaka, S., Işık, A., Nwani, C., & Abbas, J. (2023). New insight into decoupling carbon emissions from economic growth: Do financialization, human capital, and energy security risk matter? *Review of Development Economics*, 28(3), 827–850. <https://doi.org/10.1111/rode.13077>
- Islam, S., Islam, M. F., & Zannat, N.-E. (2023). Behavioral intention to use online for shopping in Bangladesh: A technology acceptance model analysis. *SAGE Open*, 13(3), 21582440231. <https://doi.org/10.1177/21582440231197495>
- Jadil, Y., Rana, N. P., & Dwivedi, Y. K. (2022). Understanding the drivers of online trust and intention to buy on a website: An emerging market perspective. *International Journal of Information Management Data Insights*, 2(1), 100065. <https://doi.org/10.1016/j.jjime.2022.100065>
- Jang, H.-W., & Cho, M. (2022). Relationship between personal values and intentions to purchase plant-based meat alternatives: Application of the dual concern theory. *International Journal of Environmental Research and Public Health*, 19(14), 8673. <https://doi.org/10.3390/ijerph19148673>
- Jeong, M., & Oh, H. (2017). Business-to-business social exchange relationship beyond trust and commitment. *International Journal of Hospitality Management*, 65, 115–124. <https://doi.org/10.1016/j.ijhm.2017.06.004>
- Karimi, S., & Makreel, A. S. (2020). The role of personal values in forming students' entrepreneurial intentions in developing countries. *Frontiers in Psychology*, 11, 525844. <https://doi.org/10.3389/fpsyg.2020.525844>

- Kennedy, M. J., Aronin, S., O'Neal, M., Newton, J. R., & Thomas, C. N. (2014). Creating multimedia-based vignettes with embedded evidence-based practices: A tool for supporting struggling learners. *Journal of Special Education Technology*, 29(4), 15–30. <https://doi.org/10.1177/016264341402900402>
- Khan, F., Ahmed, W., & Najmi, A. (2019). Understanding consumers' behavior intentions towards dealing with the plastic waste: Perspective of a developing country. *Resources, Conservation and Recycling*, 142, 49–58. <https://doi.org/10.1016/j.resconrec.2018.11.020>
- Khuong, N. V., Phuong, N. T., Liem, N. T., Thuy, C. T., & Son, T. H. (2022). Factors affecting the intention to use financial technology among Vietnamese youth: Research in the time of Covid-19 and beyond. *Economies*, 10(3), 57. <https://doi.org/10.3390/economies10030057>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling*. The Guilford Press.
- Kurkinen, J. (2023). *Security and performance in cryptocurrency exchanges*. Theseus. <https://www.theseus.fi/handle/10024/809322>
- Lee, J., Baig, F., & Pervez, A. (2021). Impacts of covid-19 on individuals' mobility behavior in Pakistan based on self-reported responses. *Journal of Transport & Health*, 22, 101228. <https://doi.org/10.1016/j.jth.2021.101228>
- Lee, S. S., Kim, Y., & Roh, T. (2023). Pro-environmental behavior on electric vehicle use intention: Integrating value-belief-norm theory and theory of planned behavior. *Journal of Cleaner Production*, 418, 138211. <https://doi.org/10.1016/j.jclepro.2023.138211>
- Lee-Tan, A. (2023). *Biggest risk facing Filipinos? not investing*. INQUIRER.net. <https://business.inquirer.net/388471/biggest-risk-facing-filipinos-not-investing>
- Li, Y., Al-Sulaiti, K., Dongling, W., Abbas, J., & Al-Sulaiti, I. (2022). Tax avoidance culture and employees' behavior affect sustainable business performance: The moderating role of corporate social responsibility. *Frontiers in Environmental Science*, 10, 964410. <https://doi.org/10.3389/fenvs.2022.964410>
- López-Mosquera, N., & Sánchez, M. (2012). Theory of planned behavior and the value-belief-norm theory explaining willingness to pay for a suburban park. *Journal of Environmental Management*, 113, 251–262. <https://doi.org/10.1016/j.jenvman.2012.08.029>
- Maier, T., Menold, J., & McComb, C. (2022). The relationship between performance and trust in AI in E-Finance. *Frontiers in Artificial Intelligence*, 5, 891529. <https://doi.org/10.3389/frai.2022.891529>
- Marcoulides, G. A. (2014). *Modern methods for business research* (1st ed.). Psychology Press.
- Memon, M. A., Ramayah, T., Cheah, J.-H., Ting, H., Chuah, F., & Cham, T. H. (2021). PLS-SEM statistical programs: A review. *Journal of Applied Structural Equation Modeling*, 5(1), 1–14. [https://doi.org/10.47263/jasem.5\(1\)06](https://doi.org/10.47263/jasem.5(1)06)
- Minton, E. A., Spielmann, N., Kahle, L. R., & Kim, C.-H. (2018). The subjective norms of sustainable consumption: A cross-cultural exploration. *Journal of Business Research*, 82, 400–408. <https://doi.org/10.1016/j.jbusres.2016.12.031>
- Moghavvemi, S., Jaafar, N. I., Sulaiman, A., & Parveen Tajudeen, F. (2020). Feelings of guilt and pride: Consumer intention to buy LED lights. *PLOS One*, 15(6), e0234602. <https://doi.org/10.1371/journal.pone.0234602>
- Nordhoff, S., Malmsten, V., van Arem, B., Liu, P., & Happee, R. (2021). A structural equation modeling approach for the acceptance of driverless automated shuttles based on constructs from the unified theory of acceptance and use of technology and the diffusion of innovation theory. *Transportation Research F*, 78, 58–73. <https://doi.org/10.1016/j.trf.2021.01.001>
- Nwakaji, C., & Goh, Y. N. (2021). Determinants of online purchase intention of seasonal goods in Nigeria: A conceptual model and proposition. *Journal of Entrepreneurship, Business and Economics*, 9(2), 218–252.
- Oláh, J., Yusmar, A. H., Máté, D., Novotny, Á., Popp, J., Lakner, Z., & Kovács, S. (2019). A trust approach to the financial performance of information and communications technology enterprises. *Polish Journal of Management Studies*, 20(1), 332–343. <https://doi.org/10.17512/pjms.2019.20.1.29>
- Prakash, G., Choudhary, S., Kumar, A., Garza-Reyes, J. A., Khan, S. A., & Panda, T. K. (2019). Do altruistic and egoistic values influence consumers' attitudes and purchase intentions towards eco-friendly packaged products? an empirical investigation. *Journal of Retailing and Consumer Services*, 50, 163–169. <https://doi.org/10.1016/j.jretconser.2019.05.011>
- Prinsloo, C., & Lew, C. (2021). Openness to change and conservation in value-laden decisions. *SA Journal of Human Resource Management*, 19, a1468. <https://doi.org/10.4102/sajhrm.v19i0.1468>
- Purc, E., & Laguna, M. (2019). Personal values and innovative behavior of employees. *Frontiers in Psychology*, 10, 865. <https://doi.org/10.3389/fpsyg.2019.00865>
- Purwidiarti, W., Darmawan, A., & Melliana, S. B. (2019). The effect of financial-related experience, behavioral intention, spiritual intelligence and gender on Family Financial Behavior. *Muhammadiyah International Journal of Economics and Business*, 2(2), 148–154. <https://journals.ums.ac.id/index.php/mijeb/article/view/12486>
- Puspa, J., & Kuhl, R. (2006). Building consumer's trust through persuasive interpersonal communication in a saturated market: the role of market mavens. 99th Seminar, February 8–10, 2006, Bonn, Germany 7752. European Association of Agricultural Economists.
- Rasoolimanesh, S. M., Jaafar, M., Kock, N., & Ramayah, T. (2015). A revised framework of social exchange theory to investigate the factors influencing residents' perceptions. *Tourism Management Perspectives*, 16, 335–345. <https://doi.org/10.1016/j.tmp.2015.10.001>

- Rasoolimanesh, S. M., Seyfi, S., Rastegar, R., & Hall, C. M. (2021). Destination image during the COVID-19 pandemic and future travel behavior: The moderating role of past experience. *Journal of Destination Marketing & Management*, 21, 100620. <https://doi.org/10.1016/j.jdmm.2021.100620>
- Rehman, S. U., Bhatti, A., Mohamed, R., & Ayoup, H. (2019). The moderating role of trust and commitment between consumer purchase intention and online shopping behavior in the context of Pakistan. *Journal of Global Entrepreneurship Research*, 9(1), 43. <https://doi.org/10.1186/s40497-019-0166-2>
- Roos, D., & Hahn, R. (2017). Understanding collaborative consumption: An extension of the theory of planned behavior with value-based personal norms. *Journal of Business Ethics*, 158(3), 679–697. <https://doi.org/10.1007/s10551-017-3675-3>
- Roth, F. (2022). Does too much trust hamper economic growth? *Contributions to Economics*, 141–165. https://doi.org/10.1007/978-3-030-86186-5_7
- Sabri, M. F., Anthony, M., Law, S. H., Rahim, H. A., Burhan, N. A., & Ithnin, M. (2023). Impact of financial behaviour on financial well-being: Evidence among young adults in Malaysia. *Journal of Financial Services Marketing*, 29(3), 788–807. <https://doi.org/10.1057/s41264-023-00234-8>
- Santoso, A. S., & Maureen Nelloh, L. A. (2017). User satisfaction and intention to use peer-to-peer online transportation: A replication study. *Procedia Computer Science*, 124, 379–387. <https://doi.org/10.1016/j.procs.2017.12.168>
- Sarstedt, M., Hair, J. F., Cheah, J.-H., Becker, J.-M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian Marketing Journal*, 27(3), 197–211. <https://doi.org/10.1016/j.ausmj.2019.05.003>
- Schumacher, A. E., Kyu, H. H., Aali, A., Abbafati, C., Abbas, J., Abbasgholizadeh, R., Abbasi, M. A., Abbasian, M., Abd ElHafeez, S., Abdelmasseh, M., Abd-Elsalam, S., Abdelwahab, A., Abdollahi, M., Abdoun, M., Abdullahi, A., Abdurehman, A. M., Abebe, M., Abedi, A., Abedi, A., ... Murray, C. J. L. (2024). Global age-sex-specific mortality, life expectancy, and population estimates in 204 countries and territories and 811 subnational locations, 1950–2021, and the impact of the COVID-19 pandemic: A comprehensive demographic analysis for the Global Burden of Disease Study 2021. *The Lancet*, 403(10440), 1989–2056. [https://doi.org/10.1016/S0140-6736\(24\)00476-8](https://doi.org/10.1016/S0140-6736(24)00476-8)
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1–65. [https://doi.org/10.1016/s0065-2601\(08\)60281-6](https://doi.org/10.1016/s0065-2601(08)60281-6)
- Seraj, A. H., Alzain, E., & Alshebami, A. S. (2022). The roles of Financial Literacy and overconfidence in investment decisions in Saudi Arabia. *Frontiers in Psychology*, 13, 1005075. <https://doi.org/10.3389/fpsyg.2022.1005075>
- Sia, S. K., & Jose, A. (2019). Attitude and subjective norm as personal moral obligation mediated predictors of intention to build eco-friendly house. *Management of Environmental Quality*, 30(4), 678–694. <https://doi.org/10.1108/MEQ-02-2019-0038>
- Tan, X., Abbas, J., Al-Sulaiti, K., Pilař, L., & Shah, S. A. R. (2024). The role of digital management and smart technologies for sports education in a dynamic environment: Employment, green growth, and tourism. *Journal of Urban Technology*, 23(5), 1–32. <https://doi.org/10.1080/10630732.2024.2327269>
- Thaker, M. A. B. M. T., Thaker, H. B. M. T., Rahman, M. P. B., Amin, M. F. B., Pitchay, A. B. A., & Olaniyi, N. O. (2019). Factors affecting investors. In *Intention to invest in a Peer-toPeer lending platform in Malaysia: An extended technology acceptance model*. ADBI Working Paper 998. Asian Development Bank Institute. <https://www.adb.org/publications/factors-affecting-investors-intention-invest-peer-peerlending-platform-malaysia>
- Thelken, H. N., & de Jong, G. (2020). The impact of values and future orientation on intention formation within sustainable entrepreneurship. *Journal of Cleaner Production*, 266, 122052. <https://doi.org/10.1016/j.jclepro.2020.122052>
- Thomas, F. M. F., Charlton, S. G., Lewis, I., & Nandavar, S. (2021). Commuting before and after COVID-19. *Transportation Research Interdisciplinary Perspectives*, 11, 100423. <https://doi.org/10.1016/j.trip.2021.100423>
- Tian, L. (2022). The influence of work values of college students on entrepreneurial intention: The moderating role of Psychological Capital. *Frontiers in Education*, 7, 1023537. <https://doi.org/10.3389/feduc.2022.1023537>
- Tiglaio, N. C., De Veyra, J. M., Tolentino, N. J., & Tacderas, M. A. (2020). The perception of service quality among para-transit users in Metro Manila using structural equations modelling (SEM) approach. *Research in Transportation Economics*, 83, 100955. <https://doi.org/10.1016/j.retrec.2020.100955>
- Turner, M. M., Jang, Y., Wade, R., Heo, R. J., Ye, Q., Hembroff, L. A., & Lim, J. I. (2023). The effects of moral norms and anticipated guilt on covid19 prevention behaviors. *Current Psychology*, 42, 1–13. <https://doi.org/10.1007/s12144-023-04477-5>
- Ursavaş, Ö. F., Yalçın, Y., & Bakır, E. (2019). The effect of subjective norms on preservice and in-service teachers' behavioural intentions to use technology: A Multigroup Multimodel Study. *British Journal of Educational Technology*, 50(5), 2501–2519. <https://doi.org/10.1111/bjet.12834>
- Wang, F., Zhang, R., Ahmed, F., & Shah, S. M. (2021). Impact of investment behaviour on financial markets during COVID-19: A case of UK. *Economic Research-Ekonomska Istraživanja*, 35(1), 2273–2291. <https://doi.org/10.1080/1331677X.2021.1939089>
- Wanner, J., Herm, L.-V., Heinrich, K., & Janiesch, C. (2022). The effect of transparency and trust on intelligent system acceptance: Evidence from a user-based study. *Electronic Markets*, 32(4), 2079–2102. <https://doi.org/10.1007/s12525-022-00593-5>
- Warren, G. J. (2019). Choosing and using utility functions in forming portfolios. *Financial Analysts Journal*, 75(3), 39–69. <https://doi.org/10.1080/0015198X.2019.1618109>

- Ye, X., Sui, X., Wang, T., Yan, X., & Chen, J. (2022). Research on parking choice behavior of Shared Autonomous Vehicle Services by measuring users' intention of usage. *Transportation Research F*, 88, 81–98. <https://doi.org/10.1016/j.trf.2022.05.012>
- Zailani, S., Iranmanesh, M., Masron, T. A., & Chan, T.-H. (2016). Is the intention to use public transport for different travel purposes determined by different factors? *Transportation Research D*, 49, 18–24. <https://doi.org/10.1016/j.trd.2016.08.038>
- Zamzami, F., Tantri, S. N., & Timur, R. P. (2017). Effects of auditor independence and experience, size of client's financial health and audit fee on audit quality: An empirical study on public accounting firms in Indonesia. *Journal of Economics, Business and Management*, 5(1), 69–73. <https://doi.org/10.18178/joebm.2017.5.1.488>
- Zhang, X., Abbas, J., Shahzad, M. F., Shankar, A., Ercisli, S., & Dobhal, D. C. (2024). Association between social media use and students' academic performance through family bonding and collective learning: The moderating role of mental well-being. *Education and Information Technologies*, 29(11), 14059–14089. <https://doi.org/10.1007/s10639-023-12407-y>
- Zhou, Y., Cui, X., Qu, W., & Ge, Y. (2022). The effect of automation trust tendency, system reliability and feedback on users' phishing detection. *Applied Ergonomics*, 102, 103754. <https://doi.org/10.1016/j.apergo.2022.103754>
- Zhuang, D., Abbas, J., Al-Sulaiti, K., Fahlevi, M., Aljuaid, M., & Saniuk, S. (2022). Land-use and food security in energy transition: Role of food supply. *Frontiers in Sustainable Food Systems*, 6, 1053031. <https://doi.org/10.3389/fsufs.2022.1053031>
- Zong, Z., Liu, X., & Gao, H. (2023). Exploring the mechanism of consumer purchase intention in a traditional culture based on the theory of planned behavior. *Frontiers in Psychology*, 14, 1110191. <https://doi.org/10.3389/fpsyg.2023.1110191>