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Does Digital Asset Usage Affect Gambling Intentions?

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Abstract: Current research in the field of gambling has focused on digital convergence, which has resulted in the increase of digital assets. The decentralised nature and lack of central authority in decentralised systems facilitate free trade. However, the international anonymity associated with these systems also presents opportunities for fraudulent activities. The literature has not extensively examined the impact of digital assets on gambling intention, despite its significance. The present research aims to examine the impact of digital asset usage, subjective norms, gambling self-efficacy, and gambling attitude on gambling intention. We employed Structural Equation Modelling (SEM) to analyse data from 300 respondents to achieve this. The study found that gambling attitude, descriptive norms, social norms, and gambling self-efficacy positively and significantly influence gambling intention. Furthermore, the intention to gamble had the most significant impact on the frequency of gambling. However, our findings indicate that investors' personal norms have no significant influence on their gambling intentions. Additionally, we observed that the usage of digital assets has a negative but statistically insignificant impact on gambling intention. This study expands upon the theory of planned behaviour (TPB) by examining its application to the adoption of digital assets and the gambling behaviour of investors. The study highlights the importance for policymakers and platform developers to educate investors about the risks associated with digital assets and promote responsible gambling practices.

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Introduction

Recent research has focused on the concept of 'digital convergence' in gambling studies (King, Delfabbro, & Griffiths, 2010; King et al., 2020). Digital convergence is the simultaneous occurrence of various activities facilitated by modern technology (Jenkins, 2006). The adoption of new technology has led to an increase in the circulation of digital assets. The cross-border nature and independence from central authorities of cryptocurrency facilitate free trade, but also create opportunities for fraudsters due to international anonymity. Typically, digital coins are stored in an encrypted form using a private key to address this problem (Houben & Snyers, 2018). The participants remain anonymous since ownership is based on cryptographic keys rather than personal identification. Cryptocurrencies offer a higher level of anonymity compared to cash due to the absence of intermediaries like banks or financial institutions, making it challenging, if not impossible, to obtain disclosure (Potgieter & Howell, 2021). Kethineni & Cao (2020) argue that cryptocurrencies facilitate criminal activities, bridging the gap between virtual and real-world crime. Criminals are drawn to the anonymity, security, and challenges associated with evading detection and tracking (Kethineni & Cao, 2020).

The global online gambling market is projected to reach \$58.2 billion by 2021 and is expected to grow to \$145.6 billion by 2030. The Custom Market Insights (2022) forecasts a compound annual growth rate (CAGR) of around 12% for the period 2022-2030. Online gambling has been revolutionised by the emergence of NFTs, a type of digital asset. This has also led to the rise of live casinos (Williams, 2023). According to Miller (2020), the most popular forms of online gambling in Indonesia are online slots, live casinos, blackjack, baccarat, roulette, poker, and sports betting. The increasing availability of smartphones and affordable internet access has led to a rise in the number of individuals who can access online gambling sites at any time. The online gambling market is witnessing increasingly aggressive marketing efforts by internet gambling companies to compete for market share.

Online gambling is the fastest growing form of gambling, yet a look at the academic literature on gambling shows that research on how digital assets usage affect online gambling is still relatively limited. This study aims to address a gap in the literature by examining the psychology of digital asset investors, their inclination towards gambling with these assets, fraudulent schemes that target gambling activities, and the potential relationship between behavioural biases and digital fraud schemes. It distinguishes itself from existing research by focusing on the intersection of digital asset investment and online gambling, an area that has not been adequately explored. This study seeks to enhance the knowledge of financial crime professionals regarding the intricate nature and potential hazards of digital gambling. This study contributes to the academic discussion on digital convergence and online gambling, providing practical implications for policymakers, regulators, and the online gambling industry. It aims to enhance the safety and security of the digital gambling environment.

This study employs a structured approach to examine the relationship between digital assets and online gambling. Chapter 2 establishes the theoretical framework and formulates hypotheses. In Chapter 3, the research design is discussed, including the methods and procedures used in this study. Chapter 4 presents the research results, including statistical analyses and findings. Chapter 5

provides a comprehensive analysis of the study's findings, along with the corresponding conclusions and implications. Additionally, it highlights the limitations encountered during the research process and proposes potential directions for future research.

Literature Review

Gambling Attitudes and Gambling Intention

Attitudes and behavioural intentions are conceptualised as emotional and evocative components in expectancy-value models (Ajzen, 1991) to ensure strong consistency between attitudes and intentions. The theory of planned behaviour (TPB) provides a theoretical framework for analysing the association between risk behaviours and relevant factors (Ajzen, 1991). The TPB explains how attitudes, subjective norms, and perceived behavioural control influence the intention to engage in a specific behaviour (Ajzen, 1991). Several studies have been conducted using this framework, specifically in the areas of excessive alcohol consumption (Norman et al., 2018), video game addiction (Haagsma et al., 2013), and gambling intention (Delfabbro & Thrupp, 2003; León-Jariego, Parrado-González, & Ojea-Rodríguez, 2020).

The study of gambling intention has extensively utilised the TPB framework. A study specifically focuses on the gambling behaviour of adolescents. Several researchers have posited a consistent association between gambling frequency, problem gambling, and positive attitudes towards gambling (see, for example, (Flack & Morris, 2017b; Martin, Lichtenberg, & Templin, 2011)). Adolescents often perceive gambling as a financially lucrative activity, as suggested by Wood et al. (2004). The findings align with the notion that adolescents perceive greater advantages than disadvantages associated with engaging in risky behaviours (Byrnes, 2002). This underscores the importance of investigating adolescents' attitudes towards gambling to comprehend adolescent gaming (Delfabbro & Thrupp, 2003). This research proposes hypothesis H1.

H1: Gambling attitudes has a positive role to gambling intention.

Subjective Norms and Gambling Intention

Subjective norms are influenced by the players' perception of their gambling attitudes. The study by Zhai et al. (2017) found that gambling behaviour among peers is associated with future problem gambling in individuals. Additionally, there is a notable correlation between positive parental attitudes towards gambling and an individual's level of engagement in gambling (Campbell et al., 2012; Felsher, Derevensky, & Gupta, 2003). Empirical evidence exists regarding the positive correlation between a family's approval of gambling and an individual's attitude towards gambling (Meisel & Goodie, 2014).

Several studies have utilised the TPB to investigate the factors influencing gambling frequency (Flack & Morris, 2017b; Martin et al., 2011). The study conducted by Martin et al. (2011) found a significant association between gambling frequency and gambling intentions among college students. The gambling intentions were significantly explained by the subjective norms of friends and family members. The empirical evidence demonstrates that a positive attitude towards gambling is associated with increased gambling frequency in individuals (Flack & Morris, 2017b).

The subjective norms can be categorised into three types: descriptive norms, social norms, and personal norms (Flack & Morris, 2017b). The psychological literature investigates

descriptive norms, which refer to an individual's perception of the prevalence of a behaviour within their social group and its impact on their own behaviour, alongside subjective norms. Enhance motivation to engage in actions. Descriptive norms refer to an individual's perception of the prevalence of a certain behaviour within their social groups (Cialdini, Kallgren, & Reno, 1991). Consumers who perceive the measures as effective are more inclined to act. Personal norms refer to individual standards based on one's own values and perceptions of behaviour (Schwartz, 1977), which can be influenced by religious beliefs. If an action aligns with a consumer's value system, they are more likely to engage in it if it generates pride rather than shame, thus motivating them to act. This research proposes hypotheses H2-H4.

H2: Descriptive norms play a positive role to the gambling intention.

H3: Social norms play a positive role to the gambling intention.

H4: Personal norms play a positive role to the gambling intention.

Gambling Self-Efficacy and Gambling Intention

Self-efficacy is considered a significant factor in influencing gambling behaviour, as it has both direct and indirect effects on gambling intention (Bandura, 2012). León-Jariego et al. (2020) conducted a study on adolescents, comparing non-gamblers and gamblers, and found that gambling self-efficacy had different effects on these two groups. The gambling self-efficacy questionnaire was developed by May et al. (2003). The questionnaire includes various gambling scenarios, which are rated on a scale of 0 to 100%. Therefore, this research proposes hypothesis H5.

H5: Gambling self-efficacy positively affects the gambling intention.

Digital Asset Usage and Gambling Intention

The public's awareness of digital assets and related technologies has been influenced by media attention, novelty, and the potential for speculation. Despite being new to investors, standard fraud schemes can still yield significant profits. Fraud schemes are closely linked to gambling activities involving digital assets (Dupuis, Smith, & Gleason, 2023). The research on the impact of digital asset investors' psychology on their propensity to gamble using digital assets is currently lacking. Therefore, this research proposes hypothesis H6.

H6: Digital asset usage plays a positive role in determining the gambling intention.

Gambling Intention and Gambling Frequency

The findings of these studies align with the central premise of the TPB. They indicate a positive and strong correlation between gambling intentions and gambling frequency. Additionally, gambling intentions are found to be influenced by attitudes, social norms, and TPB predictors of PBC. This research proposes hypothesis H7 (see, for example, (Flack & Morris, 2017a; St-Pierre et al., 2015)). Consistent with the central premise of TPB, these studies found that gambling intentions were positively and strongly correlated with gambling frequency, and that gambling intentions were associated with attitudes, social norms, and TPB predictors of PBC. Therefore, this research proposes hypothesis H7.

H7: Gambling intention positively affects the gambling frequency.

The research model is constructed in Figure 1, based on the literature review and hypothesis development. This study incorporated seven hypotheses and developed a novel research model.

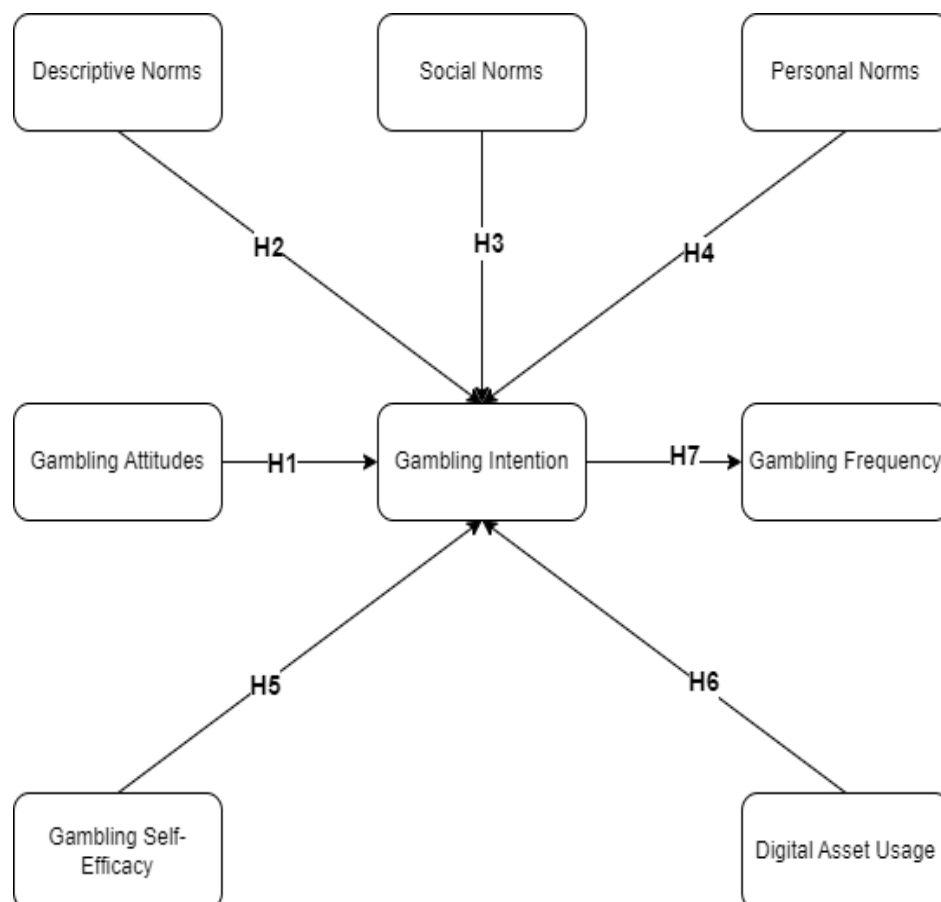


Figure 1: Research Model.

Methods

A questionnaire survey was employed as the research method in this study. An online survey was conducted from September 6, 2022, to January 10, 2023. The present study employs a quantitative methodology to gather the necessary data for hypothesis testing (Lind, Marchal, & Wathen, 2018). The study employed purposive sampling and utilised a web-based online questionnaire. The questionnaire was developed based on prior research conducted by Sekaran & Bougie (2016) on individuals who had engaged in transactions involving digital assets. This study aims to investigate the relationship between gambling intention and gambling frequency among users who have engaged in transactions involving digital assets. To ensure the inclusion of eligible participants, the questionnaire explicitly stated at the outset that it was designed for individuals who have engaged in digital asset transactions (Saunders, Lewis, & Thornhill, 2009).

Data Collection

A total of 321 responses were collected from the participants in this study. In our analysis, we contemplated excluding certain responses that did not meet the criteria, as noted by Marhaeni et al. (2023). A total of 6 respondents completed the survey in less than 1 minute, while 7 respondents consistently chose the same options throughout the survey. Additionally, 8 respondents declined to answer questions regarding their self-identity, including gender, age, education, and city. This study utilised 300 samples for the final analysis after data collection. The number of model paths in this study meets the minimum requirement of 10 times, as stated by Hair Jr et al. (2023), for using Smart-PLS in hypothesis testing. The questionnaire achieved an effectiveness rate of 73.2%, indicating that it was successfully distributed to appropriate respondents in accordance with the research criteria (Gaskin, 2013).

Measurement Design

The research questionnaire was developed based on the theoretical foundation of prior studies. The first part includes five statements on gambling attitudes, which were derived from the research conducted by Delfabbro & Thrupp (2003). The second part includes three descriptive norms statements derived from Zeqiri et al.'s research (Zeqiri et al., 2022). The third part includes five social norms statements derived from Zeqiri et al.'s research (Zeqiri et al., 2022). The fourth part includes personal norms, which are comprised of five statements derived from Zeqiri et al.'s research (Zeqiri et al., 2022). The fifth section includes a set of 15 statements on gambling self-efficacy, which were derived from a study conducted by May et al. (2003). The sixth section includes four statements on digital asset usage, which were adopted from Lee's research (Lee, 2013). The seventh section includes four statements on gambling intention, based on the research conducted by Venkatesh et al. (2003). The eighth section, on the other hand, includes only one question on gambling frequency, adopted from the study by León-Jariego et al. (2020).

Pilot Study

Questionnaires were developed and adjusted based on previous research (Saunders et al., 2009). A pilot study was conducted on September 1, 2022, to assess the credibility of the questionnaire. The study involved 50 respondents (Sekaran & Bougie, 2016). A pilot study was conducted to minimise ambiguity in the questionnaire items and prevent misperception of ambiguous statements by the

respondents (Saunders et al., 2009). In the subsequent phase following the pilot study, we addressed various items that were omitted from this study due to their ambiguous or unclear meanings (Sekaran & Bougie, 2016). Feedback was solicited from respondents in the pilot study regarding the corrections implemented (Lind et al., 2018). There are several corrections, as follows:

- In the social norms construct, we deleted 2 items, namely SN1 and SN 3.
- In the personal norms construct, we deleted 1 item, namely PN5.
- In the construct of gambling self-efficacy, we deleted 9 items namely GSE1, GSE2, GSE4, GSE5, GSE8, GSE10, GSE11, GSE13, GSE15.
- In the gambling intention construct, we deleted 1 item, namely GI3.

At the conclusion of the study, a questionnaire consisting of 29 items was employed to assess the eight constructs in the research model. This approach ensured the use of robust instruments and minimised potential respondent misperceptions.

Data Analysis

The study employs a PLS-SEM analysis using the Smart-PLS 4 software (Hair et al., 2019). The method demonstrates strong predictive capability despite a limited sample size. Furthermore, it is not necessary for the data to follow a normal distribution, making it well-suited for complex models like the research model in question, which encompasses numerous constructs composed of multiple items (Hair et al., 2019).

Data Analysis Result

Descriptive and inferential testing is conducted at this stage to analyse the collected data. The test comprises several stages, including respondent profiles, validity and reliability assessment, path analysis, and importance-performance map analysis (IPMA).

Profile Respondents

The study provides a summary of personal information, which is presented in Table 1. The sample consisted of 177 males (59%) and 123 females (41%) based on gender. Most respondents were aged 18-25 years (47%) and 26-35 years (25.7%). The majority of 115 individuals had a high school education (38.3%), while 110 individuals held a bachelor's degree (36.7%). Most participants were from Jakarta (37.3%) and Tangerang (21.3%), based on their city of residence.

Table 1: Respondent Backgrounds.

Variable	Item	Frequency	Percentage
Gender	Male	177	59%
	Female	123	41%
Age	18-25	141	47%
	26-35	77	25.7%
	36-45	53	17.7%
	Over 45	29	9.6%
Education	High School	115	38.3%
	Bachelor	110	36.7%
	Master	64	21.3%
	PhD	11	3.7%
City	Jakarta	112	37.3%
	Bogor	42	14%
	Depok	48	16%
	Tangerang	64	21.3%
	Bekasi	34	11.4%

Measurement Assessment

An outer loading analysis is conducted to measure each construct by assessing the reflection of each item in the construct. The statistical measures, including mean, standard deviation (SD), standard factor loading (SFL), average variance extracted (AVE), composite reliability (CR), and Cronbach's alpha (CA), are presented in Table 2 for each item and construct.

Table 2: Weight of Each Construct Factor.

Construct	Item	Mean	SD	SFL	AVE	CR	CA
Gambling Attitudes	GA1	3.1171	1.1090	0.9070	0.8580	0.9300	0.929
	GA2	3.4631	1.1080	0.926			
	GA3	3.3231	1.1100	0.944			
	GA4	3.1801	1.1460	0.916			
	GA5	3.3001	1.0410	0.938			
Descriptive Norms	DN1	2.8871	1.0870	0.9230	0.8880	0.9390	0.937
	DN2	3.2631	1.1230	0.963			
	DN3	3.2831	1.1330	0.939			
Social Norms	SN2	3.2271	1.0990	0.9120	0.8910	0.9400	0.939
	SN4	2.9401	1.0630	0.965			
	SN5	2.9071	1.0850	0.954			
Personal Norms	PN1	3.0400	0.9760	0.9160	0.8740	0.9430	0.942
	PN2	3.2301	1.0440	0.931			
	PN3	3.1871	1.0920	0.945			
	PN4	3.1671	1.1160	0.948			
Gambling Self-Efficacy	GSE3	2.8831	1.1440	0.9340	0.8690	0.9400	0.940
	GSE6	3.0031	1.0690	0.918			
	GSE7	3.2131	1.2730	0.935			
	GSE9	3.1801	1.2360	0.936			
	GSE12	2.9331	1.0560	0.928			
Digital Asset Usage	DAUI1	3.4671	1.0310	0.9450	0.9140	0.9390	0.939
	DAUI2	3.4501	1.0810	0.962			
	DAUI3	3.3431	1.1250	0.958			
	DAUI4	3.3731	1.0710	0.960			
	G1	3.0131	1.2600	0.9720	0.9330	0.9340	0.934
Gambling Intention	GI2	3.1631	1.2820	0.960			
	GI4	2.9901	1.2580	0.965			

Each item has a high mean value, indicating that most respondents agree with the items on the instrument (Lind et al., 2018; Saunders et al., 2009; Sekaran & Bougie, 2016). The low standard deviation value suggests that there is minimal variation in the data and a tendency for consistent behaviour (Lind et al., 2018). The mean value in this research model ranges from 2,883 to 3,467. The standard deviation (SD) values in this research model range from 0.976 to 1.282. The data's quality, as indicated by the mean value and standard deviation, can offer accurate insights into the behaviour of the respondents (Lind et al., 2018; Sekaran & Bougie, 2016).

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The reliability test confirms that the CR and CA values meet the required range of 0.7 to 0.95, which is considered indicative of good reliability (Lind et al., 2018; Sarstedt et al., 2021). The CR value ranges from 0.930 to 0.943, and the CA value ranges from 0.929 to 0.942. The reliability test indicates

that each construct in the research model, as evidenced by the CR and CA values, has passed and does not necessitate any additional modifications (Gaskin, 2013; Sarstedt et al., 2021). Discriminant validity checking is conducted in accordance with the standard structural equation modelling (SEM) approach (refer to Table 3). The test conducted by Sarstedt et al. (2021) aims to determine if the data used represents distinct and independent constructs (Hair et al., 2019). The purpose of this test is to ensure that the variables in the model represent distinct constructs, thus preventing modelling errors. The discriminative validity of this study's scale is excellent, as evidenced by the square root of the AVE value for each construct being greater than the correlation coefficient between that construct and other constructs (Sarstedt et al., 2021).

Table 3: Fornell-Larcker.

	DAUI	DN	GA	GF	GI	GSE	PN	SN
DAUI	0.956							
DN	0.866	0.942						
GA	0.850	0.904	0.926					
GF	0.739	0.805	0.806	1.000				
GI	0.811	0.894	0.891	0.807	0.966			
GSE	0.836	0.902	0.883	0.830	0.898	0.932		
PN	0.863	0.913	0.902	0.796	0.875	0.899	0.935	
SN	0.807	0.889	0.875	0.814	0.894	0.923	0.891	0.944

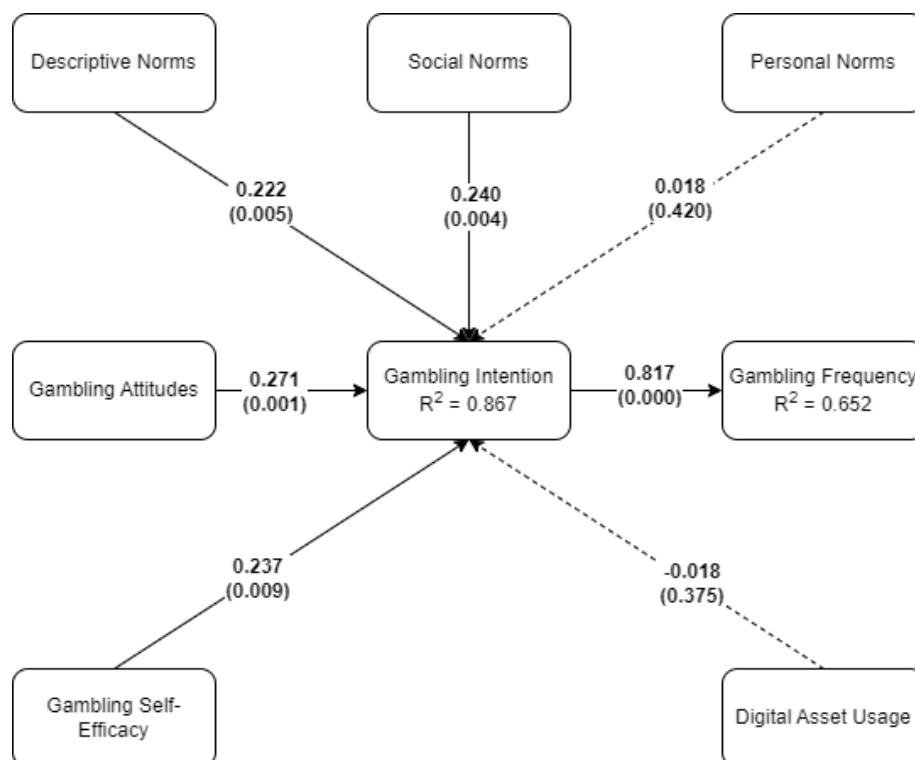
The analysis results indicate strong convergence validity, reliability, and discriminative validity of the measuring items in this study, suggesting good construct validity of the scale (Hair et al., 2019; Sarstedt et al., 2021).

Path Analysis

Following the validation and reliability assessment of the items and constructs in the outer model, a path analysis test is conducted in this stage. The structural model employs SEM to assess the impact of constructs on a research model. The study employed bootstrapping with 5000 subsamples to test the hypothesis and make decisions (Hair Jr et al., 2023).

In Figure 2, it is known that gambling attitudes have a positive and significant influence on gambling intention ($B = 0.271$; $p < 0.05$), thus empirical data support the research hypothesis of H1. Descriptive norms have a positive and significant influence on gambling intention ($B = 0.222$; $p < 0.05$), thus empirical data support the research hypothesis of H2. Social norms have a positive and significant influence on gambling intention ($B = 0.240$; $p < 0.05$), thus empirical data support the research hypothesis of H3. Personal norms have a positive and insignificant influence on gambling intention ($B = 0.018$; $p > 0.05$), thus empirical data does not support the research hypothesis of H4. Gambling self-efficacy has a positive and significant influence on gambling intention ($B = 0.237$; $p < 0.05$), thus empirical data support the research hypothesis of H5. Digital asset usage has a negative and insignificant influence on gambling intention ($B = -0.018$; $p > 0.05$), thus empirical data does not support the research hypothesis of H6. Gambling intention has a positive and significant influence on gambling frequency ($B = 0.817$; $p < 0.05$), thus empirical data support the research hypothesis of H7.

Figure 2 indicates that the R^2 value for gambling intention is 0.867 and the R^2 value for gambling frequency is 0.652. This suggests that the four stimulus variables can account for 86.7% of the variance in gambling intention. The frequency of gambling is significantly associated with gambling intention, accounting for 65.2% of the variance. The findings suggest that the research model possesses a high degree of explanatory capacity (Lind et al., 2018; Sekaran & Bougie, 2016).



Note: → Significant Path; - - -> Insignificant Path

Figure 2: Structural Model and Path Analysis.

Importance Performance Map Analysis

The current stage involves the utilisation of IPMA mapping to visually represent and comprehend the correlation between performance and the significance of a construct in the model (Hair Jr et al., 2023). The research can benefit from IPMA's assistance in determining the variables that require priority for improvement or further attention (Hair Jr et al., 2023). The IPMA analysis exclusively employs the target construct for the gambling intention construct, as there are six explanatory constructs for the

gambling intention and only one for the gambling frequency. The analysis will be more effective by focusing on the target construct for gambling intention.

Figure 3 reveals that the latent variable (LV) performance of digital asset usage is 60.208 with a coefficient of -0.018. However, despite the high LV performance, there is no significant total effect. As a result, the gambling attitude construct attains an ideal value ($LV = 56.894$; $= 0.271$), which can be attributed to both the high LV performance and the high total effect.

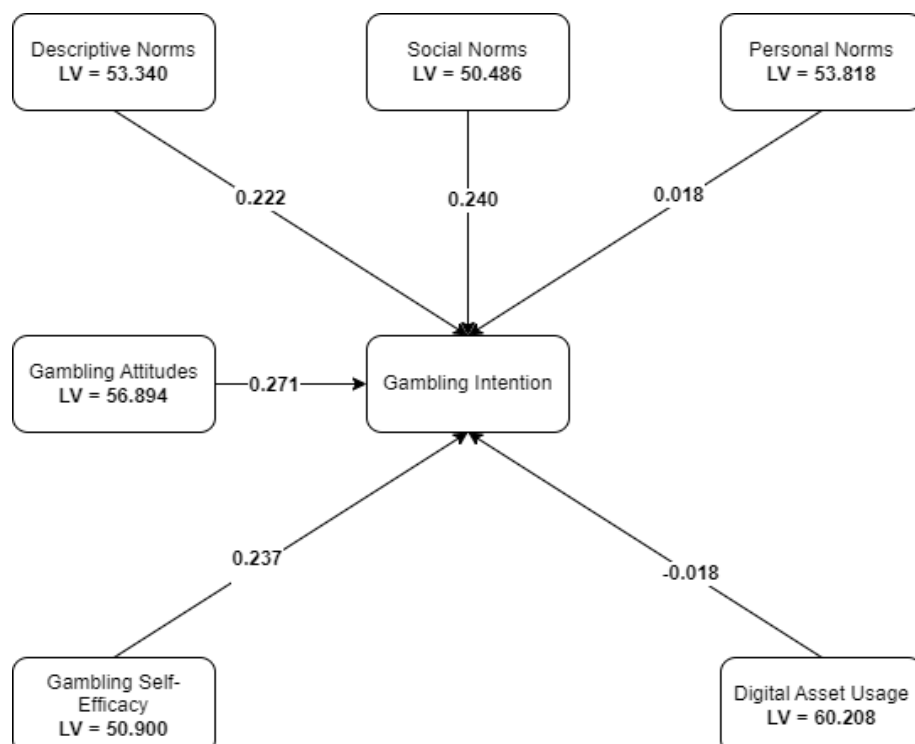


Figure 3: LV Performance and Total Effects.

The IPMA mapping on Smart-PLS 4 supports the findings presented in Figure 3 (see Figure 4). According to this mapping, it is evident that the gambling attitude is

strongly associated with the top right quadrant, indicating that it is a significant factor in influencing gambling intention.

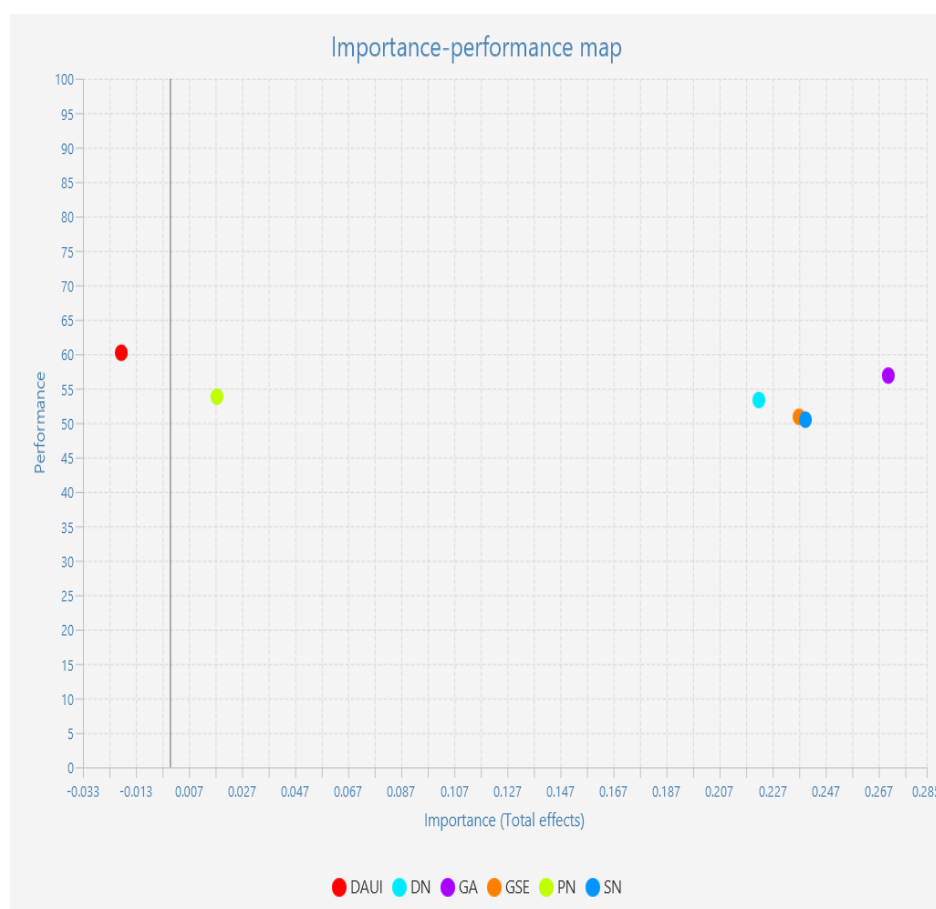


Figure 4: Importance-Performance Map.

The IPMA evidence indicates that the five explanatory constructs of gambling intention have a positive effect. Specifically, the constructs of descriptive norms, gambling self-efficacy, social norms, and gambling attitude yield favourable outcomes.

Conclusions and Suggestions

The impact of gambling attitude, descriptive norms, social norms, personal norms, gambling self-efficacy, and digital asset usage on gambling intention and the impact of gambling intention on gambling frequency in the context of this research have been explored using the TPB perspective. This section consists of a discussion, conclusions, implications, limitations, and future studies.

Discussion

The empirical data analysis indicates a positive and significant effect of gambling attitude, descriptive norms, social norms, and gambling self-efficacy. The most significant impact is observed in gambling attitude, followed by social norms, gambling self-efficacy, and descriptive norms. The high coefficient of determination and IPMA in the explanatory construct of gambling intention further support this result. However, personal norms have a non-significant positive effect, while digital asset usage has a non-significant negative effect. The analysis reveals that the most significant impact is observed in the relationship between gambling intention and gambling frequency. This finding is substantiated by a

high coefficient of determination, indicating that gambling intention alone can explain the variation in gambling frequency.

This study discovered a positive association between a gambling mindset towards digital assets, such as digital coins, and an individual's inclination to engage in gambling activities. This inclination is driven by the belief that they possess the ability to accurately predict price increases within a specific timeframe (Johnson et al., 2023; Martin et al., 2011). Overconfidence can result in excessive risk-taking, providing opportunities for fraudsters to exploit. Due to their anonymity, digital coins and the blockchain system have become an attractive avenue for scammers to exploit individuals' gambling tendencies and acquire funds, even in the absence of extensive knowledge about digital assets such as digital coins (Meiryani et al., 2022). The role of gambling attitude in decision-making is significant (Martin et al., 2011). An individual may exhibit a proclivity towards engaging in gambling activities involving digital assets. Therefore, it is imperative to possess a comprehensive comprehension of the functioning of digital assets within the blockchain system in order to mitigate the prevalent risk of fraudulent activities, such as rug pull (crypto scams) (Mills & Nower, 2019).

The study findings indicate that descriptive norms and social norms significantly influence investors' gambling intentions with digital assets, such as digital coins. According to Meisel & Goodie (2014), there is a belief that widespread participation in digital asset gambling will promote the adoption of similar behaviour. The success of high gambling intentions in society relies on the popularity

of digital coins (Chohan, 2019). To increase players' interest in digital coins, it is important to highlight this fact. Descriptive norms and social norms influence individuals to perceive behaviours exhibited by the majority as normal. This can lead to irrational decision-making when gambling with digital assets, particularly when lacking understanding of the blockchain system (Kethineni & Cao, 2020; Steinmetz, 2023). Fraudsters exploit opportunities during periods of rising digital coin prices, often executing manipulative rug pulls in the short term (Fenwick & Vermeulen, 2019). The influence of descriptive and social norms on individuals' gambling intentions with digital coins can provide opportunities for fraudsters to exploit investors' inclination to conform or participate in perceived trends (Meisel & Goodie, 2014). The study determined that personal norms have minimal impact on individuals' intentions to engage in gambling activities involving digital assets. The result is reasonable given the assumption that individuals possess financial responsibility and engage in long-term planning (Flack & Morris, 2017b; Meisel & Goodie, 2014). Moreover, it is expected that individuals seek excitement and potential profits through gambling activities involving digital assets, such as digital coins (Venegas, 2017). The presence of conflicting values can pose challenges for personal norms in terms of promoting gambling intentions, particularly in relation to digital assets (Johnson et al., 2023). This study's findings highlight the significance of self-efficacy in determining the gambling intention of individuals with digital assets. May et al. (2003) found that high self-efficacy in gambling is associated with increased intentions to gamble with digital assets, such as digital coins. According to Levin, Waltz, & LaCount (2018), individuals engage in digital coin gambling because they possess the necessary skills and knowledge to potentially earn a profit. However, a significant concern arises regarding the potential for fraudsters to exploit individuals with high self-efficacy in gambling. Scammers employ deceptive tactics by promoting counterfeit digital coins as lucrative investment opportunities (Mills & Nower, 2019). Investors with high self-efficacy are particularly susceptible to this trap due to their confidence in their ability to utilise blockchain technology (Kethineni & Cao, 2020), which is still relatively unfamiliar to the Indonesian population (Fahlevi, Vional, & Pramesti, 2022). Hence, investors must possess knowledge of their gambling self-efficacy and implement measures to safeguard themselves against fraudulent schemes (Juhandi et al., 2020). The study findings indicate that the use of digital assets has a non-significant negative impact on gambling intention. The utilisation of digital assets is associated with investors who possess a comprehensive understanding of their functioning, particularly digital coins that operate on the blockchain system. Consequently, investors with this knowledge tend to prioritise long-term investments over short-term speculation (Dupuis et al., 2023; Johnson et al., 2023). Individuals who perceive digital assets as long-term investments may exhibit reduced inclination towards gambling with digital coins, as they may be unwilling to jeopardise their investment for uncertain returns (Lee, 2013). Moreover, digital asset users are aware of the potential risks associated with investing in or transacting with digital coins, leading them to avoid such activities. The heightened awareness resulting from this can prompt individuals to exercise greater caution when participating in digital coin transactions associated with gambling or investment, thereby diminishing the likelihood of becoming victims of fraud (Steinmetz, 2023). While digital asset usage can present opportunities for fraudsters to

exploit investors, it can also undermine the speculative nature of digital coins if investors perceive them as long-term investments rather than short-term gambles (Potgieter & Howell, 2021).

Individuals with a strong inclination towards gambling may exhibit a greater propensity for risk-taking and engage in gambling activities more frequently. Consequently, they may face an elevated risk of encountering fraudulent gambling schemes or counterfeit digital coin offerings (Chohan, 2019; Venegas, 2017). Fraudsters exploit investors' inclination towards risk-taking by leveraging it to promote fraudulent digital coin offers and engage them in illicit gambling activities (Kethineni & Cao, 2020). It is crucial for individuals to have a clear understanding of their objectives in gambling and to implement measures to prevent being deceived by counterfeit coins (Martino, Bellavitis, & DaSilva, 2019). This involves monitoring their knowledge of digital coin offerings, understanding the associated risks of gambling, and seeking professional assistance for gambling addiction (Flack & Morris, 2017a). Individuals can reduce their vulnerability to scams and mitigate the negative consequences of excessive gambling by following these measures.

The rapid increase in the adoption of digital assets and online gambling in Indonesia poses significant challenges. The study's findings indicate that descriptive and social norms contribute to the normalisation of gambling with digital assets, potentially heightening individuals' susceptibility to fraud. Furthermore, while having high self-efficacy in gambling may suggest confidence in one's gambling skills, it could ironically increase vulnerability to scams, especially in a market that is still adapting to the intricacies of blockchain technology.

Conclusion

This study aimed to investigate the influence of various factors, such as gambling attitude, descriptive norms, social norms, personal norms, gambling self-efficacy, and digital asset usage, on gambling intention. Additionally, the study examined the relationship between gambling intention and gambling frequency, using the TPB perspective. The study findings indicate that gambling attitude, descriptive norms, social norms, and gambling self-efficacy exert a positive and significant influence on gambling intention. The study revealed that the most significant impact was observed in the relationship between gambling intention and gambling frequency. Additionally, the study observed that personal norms of investors do not exert a significant influence on their gambling intention. Moreover, the usage of digital assets has a negative effect on gambling intention, although this effect is not statistically significant. The research emphasises the importance for investors to comprehend the functioning of digital assets within the blockchain system to mitigate the risk of prevalent fraudulent activities, such as rug pulls (crypto scams). The study highlights the significance of self-awareness of gambling self-efficacy in safeguarding against fraudulent schemes. Investors should carefully consider their objectives and assess the potential risks and rewards associated with gambling before participating in such activities.

Implications

Theoretical Implications

This study employs the TPB to examine the factors influencing investors' intentions and frequency of gambling with digital assets. The factors examined included gambling attitude, descriptive norms, social norms,

personal norms, gambling self-efficacy, and digital asset usage. The study revealed that gambling attitude, descriptive norms, social norms, and gambling self-efficacy positively and significantly influence gambling intention. However, personal norms have a positive but non-significant effect, and digital asset usage has a negative but non-significant effect. The study revealed that gambling intention has the most significant impact on gambling frequency. This study expands the discussion of TPB theory in relation to digital asset adoption and investor gambling behaviour.

Managerial Implications

The results of the study hold significance for policymakers and platform developers. Prioritising investor education on the risks associated with digital assets and promoting responsible gambling practices is crucial. Targeted advertising campaigns and educational programmes can effectively address the dangers of fraud and other risks associated with digital assets. Regulators should consider implementing measures to prevent fraud and illegal activities in the digital asset industry. This may include licencing requirements, mandatory reporting, and penalties for non-compliance. Furthermore, platforms should prioritise enhancing the transparency and security of digital asset transactions to bolster investor confidence and mitigate the potential for fraudulent activities.

Limitations and Future Research

This study is limited to big cities in Indonesia, indicating the need for further research in other cities within Indonesia and potentially in other countries. This study employed purposive sampling, a non-probability sampling technique. Consequently, the findings may be subject to bias if applied to different samples. Additional research may explore alternative sampling techniques, such as probability sampling, which offers greater accuracy and generalizability. This study utilised a limited sample size of 300, thus future research is anticipated to encompass a more extensive sample size. This study focuses solely on structural models, therefore future research is anticipated to incorporate additional analysis, such as conducting multi-group analysis based on respondent characteristics such as gender, age, education, and city.

Ethics Statement

The study complied with the Declaration of Helsinki and followed its ethical codes for individuals, samples, and data collection involved in each research procedure.

Informed Consent Statement

Prior to the questionnaire, the researchers have asked the respondents to read the written informed consent carefully, introduced the purpose of the study to the respondents and explained that the data would be used for research only and that all information about the respondents would be kept confidential. All respondents were informed and volunteered to complete the questionnaire.

Data Availability Statement

The original contributions presented in the study are included in the article; further inquiries can be directed to the corresponding author.

Conflicts of Interest

The authors declare that they have no competing interests.

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Appendix: Measurement Table

No. Variable	Constructs	Measurement
1 Gambling Attitudes (GA)	GA1: It seems that I don't need other people's help in gambling using digital assets GA2: I believe the step-by-step navigation of gambling in digital assets is easy to understand GA3: I believe learning to gamble using digital assets is easy GA4: I like it when gambling can be done quickly in digital assets GA5: I believe it's easy to gamble through digital assets because the steps are quite practical Davis (1989) and Venkatesh et al. (2003)	Likert scale 1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree
2 Descriptive norms (DN)	DN1: I gamble like everyone else in my association. DN2: Other people usually gamble on certain special days (holidays, holidays, etc.) DN3: People who are members of a group will gamble if other members do this (Zeqiri et al., 2022)	Likert scale 1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree
3 Subjective norms (SN)	SN1: People who are important to me think that I should gamble SN2: When I have to choose between gambling or not, I behave like other members of my community SN3: I choose the same gambling action as my community group because of social pressure SN4: People whose existence is important to me would prefer to commit acts of gambling SN5: People whose opinions are valuable to me would prefer to commit acts of gambling (Zeqiri et al., 2022)	Likert scale 1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree
4 Personal norms (PN)	PN1: I feel that the act of gambling does not bother me PN2: I was fully aware when I chose to engage in the Gambling Act PN3: I believe that gambling occasionally when there are special moments is the right decision PN4: I think that people should gamble occasionally on special occasions PN5: I feel that I have an obligation to gamble (Hopper & Nielsen, 1991; Zeqiri et al., 2022)	Likert scale 1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree
5 Digital asset usage intention (DAUI)	DAUI1: I am happy to choose a financial service that adapts digital assets DAUI2: I want to use services using digital assets as much as possible. DAUI3: I prefer payment using digital assets over other payment methods (cash, credit card, debit, etc.) DAUI4: I will recommend the use of digital asset-based services to my acquaintances if the opportunity arises. (Lee & Lee, 2021)	Likert scale 1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

6	Gambling self-efficacy (GSE)	I will gamble if...	Likert scale
		GSE1: I feel like a failure with myself	1: Strongly disagree
		GSE2: There is a fight in my house	2: Disagree
		GSE3: I have trouble sleeping	3: Neutral
		GSE4: I have a conflict with a friend	4: Agree
		GSE5: I feel safe and relaxed	5: Strongly agree
		GSE6: I am comfortable with myself	
		GSE7: I lost money one day and want to win it back another day.	
		GSE8: The place for gambling is a place for other people to play	
		GSE9: I wonder how much self-control I have and want to test it.	
		GSE10: I am upset about what is happening to me	
		GSE11: I was hanging out with a good friend and wanted to ask him to play with me	
		GSE12: I am in town with friends and want to have a more enjoyable experience.	
		GSE13: I met a friend and he suggested that we should go and play together.	
		GSE14: I suddenly feel the urge to gamble.	
7	Gambling Intention	GSE15: I want to prove to myself that I can gamble a little without losing control. (May et al., 2003)	
		GI1: I want to gamble using digital asset in the near future	Likert scale
		GI2: It is very possible to use my smartphone for gambling in digital assets	1: Strongly disagree
		GI3: I will often gamble using digital assets in the future	2: Disagree
		GI4: I intend to recommend other people to gamble using digital assets (Venkatesh et al., 2003)	3: Neutral
8	Gambling Frequency		4: Agree
			5: Strongly agree
		Frequency of gambling in the last 12 months	1. Never
		(León-Jariego et al., 2020)	2. Less than once a month
			3. Once a month
			4. Once a week
			5. Less than once a week
			6. Every day