
DETERMINING FACTORS OF INTENTION TO PAY ZAKAT VIA FINANCIAL TECHNOLOGY (FINTECH)

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ABSTRACT

This study aims to examine muzakki's intention to utilize Financial Technology (Fintech) platforms for paying zakat by investigating the behavioral and psychological determinants. The research integrates the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB), with a particular emphasis on prosocial motivations and perceived risk factors. This study uniquely expanded the view of perceived risk variables, including psychological, legal, and time risks, by integrating altruism and empathy as prosocial constructs into a single framework. The research employs a quantitative approach, utilizing a structured questionnaire distributed to 150 purposively selected respondents. The data were analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) to test the relationships between the variables. The findings reveal that perceived altruism and empathy significantly influence muzakki's intention to adopt fintech for zakat contributions. In contrast, perceived risk—which encompasses aspects such as privacy, legality, time, psychological burden, and security—does not have a significant effect on the intention to use fintech for zakat. These results suggest that emotional and social motivations are stronger predictors of digital zakat payment adoption than perceived risk. Therefore, zakat institutions and fintech developers are advised to focus on building trust and emphasizing the altruistic and empathetic values of zakat in their platforms, as this effort is expected to strengthen the development of a sharia-compliant digital financial ecosystem and contribute to achieving social goals, such as poverty alleviation and reducing inequality.

INTRODUCTION

Zakat is a fundamental component of Sharia social sectors that significantly contributes to the Government's efforts in achieving prosperity. It is crucial to continually enhance the performance of the zakat sector, particularly by optimizing information technology and embracing digital transformation. By adopting digital transformation, the zakat collection process can attract more muzakki (zakat payer) and simplify their fulfillment of this obligation.

The digitalization of zakat has been shown to significantly improve the collection of zakat funds. According to data from BAZNAS, zakat collection has increased over the past five years. In 2021, the total zakat collection reached IDR 17.9 trillion, up from IDR 12.43 trillion the previous year. Additionally, online donations through BAZNAS's digital platforms rose by 51%, with around 70% of contributions coming from individuals aged 25-44. In 2022, zakat collection grew by 25% compared to the previous year, reaching IDR 22.43 trillion. The upward trend continued in 2023, with zakat collection totalling IDR 32.32 trillion. In 2024, the amount further increased to IDR 40.53 trillion. This escalation in zakat collection fund is attributed to improved collaboration and teamwork between BAZNAS, amil zakat institutions, and the private sector (BAZNAS, 2025).

One of the primary factors driving the digitalization of zakat is the emergence of Financial Technology (Fintech) platforms. Fintech is one of the digital platforms that plays a crucial role in the global digital financial sector (Hudaefi, 2020; Niswah et al., 2019). By 2024, the total assets of global Islamic fintech were USD 138 billion (KNEKS, 2025). This figure is expected to grow at a Compound Annual Growth Rate (CAGR) of 13.6%, potentially reaching USD 306 billion by 2028. According to the Global Islamic Fintech Index (GIFT) 2024/2025 report, Indonesia ranks third among countries that consistently develop Sharia-compliant digital financial infrastructure. This ranking positions Indonesia as a "Leader Hub," alongside four other nations: Saudi Arabia, Malaysia, the UAE, and the United Kingdom. This achievement presents an opportunity for zakat institutions to leverage fintech as a platform for collecting, managing, and distributing zakat (Rachman dan Salam, 2018). Fintech enhances zakat management by making it more user-friendly and accessible to all social groups (Bin-Nashwan, 2021). Moreover, Che et al. (2020), Tajudin et al. (2020), and Hudaefi et al. (2020) concluded that using fintech for zakat payments can boost social financial inclusion and support the realization of SDGs 9 (Industry, Innovation, and Infrastructure) and SDG 8 (Decent Work and Economic Growth).

To maximize the potential of zakat, institutions need to enhance their zakat governance systems, particularly through the digitalization of zakat administration. This

initiative aims to improve the efficiency and transparency of zakat management. Several previous studies have explored the factors that influence muzakki in making online zakat contributions. Amin (2022) discovered that perceived impact, attitudes, and subjective norms had a significant positive impact on online donations among university graduates in Malaysia. Oktavendi and Mu'ammal (2022) investigated the factors that motivate Generation Z to make ZIS payments via digital platforms.

Previous research has broadly examined the concept of perceived risk within the context of digital payments. This exploration encompasses various types of risks, including financial risk, performance risk, privacy and security risk, psychological risk, and social risk (Featherman & Pavlou, 2003; Yang & Liu, 2015; Wei et al., 2021). Moreover, trust and ease of use are often linked to perceived risk (Akturan & Tezcan, 2012). This study builds on previous models by incorporating the variables of psychological risk, legal risk, and time risk. This approach intends to strengthen the risk construct proposed by Oktavendi and Mu'ammal (2021, 2022).

The uniqueness of this study lies in its integrated analysis of altruism and empathy, conducted in conjunction with the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB). While TAM and TPB focus on the technological dimension and rational behavior of users, altruism and empathy highlight the moral and emotional motivations that drive individuals. Meanwhile, the perceived risk factor reflects the psychological barriers that can influence the adoption of technology. By merging these theories, this study aims to provide a comprehensive understanding of how internal motivation and external barriers collectively influence user behavior when utilizing digital platforms. This study also seeks to provide insights into whether the intentions of zakat payers are more significantly shaped by prosocial values or constrained by psychological concerns. This integration of theories contributes to the unique nature of this study.

The findings of this study offer valuable insights for zakat institutions and fintech companies in developing more effective communication strategies. If altruism and empathy are identified as significant determinants of technology adoption, marketing campaigns should emphasize religious and social values to connect with users' moral and emotional motivations. Conversely, if the perceived risk is identified as a dominant factor, strategies must include enhancing trust and addressing users' security and privacy concerns. Additionally, if the technology factor from the TAM and the behavioral rationality from the TBP are significant, the technology service provider should develop a user-friendly system that aligns with social norms.

LITERATURE REVIEW

Theoretical Basis

The Theory of Reasoned Action (TRA), proposed by Fishbein and Ajzen (1975), posits that a person's behavioral intention is formed by two primary factors: attitudes toward behavior and subjective norms. This theory was later extended into the Theory of Planned Behavior (TPB) by Ajzen (1991), who added perceived behavioral control as a third determinant to address situations where individual behavior is constrained by limited abilities or resources (Hsu & Chiu, 2002). TPB has been widely applied in the study of zakat behavior, including research by Muflih (2022), Usman et al. (2020), Ninglasari (2021), and Akturan and Tezcan (2012), to analyze factors influencing *muzakki's* intention to pay zakat.

Building on TRA and TPB, Davis et al. (1989) developed the Technology Acceptance Model (TAM) to explain the adoption of information systems specifically. TAM emphasizes two key constructs, Perceived Usefulness and Perceived Ease of Use, as predictors of technology adoption. This model has been widely adopted in Islamic finance research, including studies on crowdfunding-waqf (Thas Thaker et al., 2018) and ZIS payments (Oktavendi & Mu'ammal, 2022), which demonstrated that perceived usefulness significantly boosts user acceptance, while ease of use strengthens both direct adoption and perceived effectiveness. Evidence from other contexts reinforces these findings. Yadav et al. (2015) showed that perceived usefulness and attitude strongly predict internet banking adoption, while Thakur & Srivastava (2014) found that ease of use and adoption readiness are central to mobile payment uptake. Collectively, these studies highlight TAM's relevance in explaining *muzakki's* behavioral intention to adopt fintech for zakat.

The evolution of adoption theories continues with the Theory of Innovation Diffusion (TID), introduced by Rogers (1995), which explains how innovations are adopted through characteristics such as relative advantage, compatibility, complexity, trialability, and observability. Importantly, TID also emphasizes that adopting new technology involves perceptions of risk. Previous studies have classified perceived risks into multiple dimensions, including financial, performance, time, physical, psychological, and social risks (Jacoby & Kaplan, 1972; Murray & Schlacter, 1990; Havlena & DeSarbo, 1991). In fintech-based zakat, TID complements TAM by showing how the perceived relative advantage of digital zakat services is weighed against these potential risks. Research in Indonesia suggests that while digitalization has increased accessibility and transparency, perceived risks, such as psychological and time-related concerns, have limited influence on adoption (Almustofa, 2025). Other studies confirm that trust, credibility, and compatibility play stronger roles in

reducing adoption barriers (Usman et al., 2020; Yadav et al., 2015; Thakur & Srivastava, 2014).

In addition to these evolutionary theories, prosocial constructs such as empathy and altruism are highly relevant in the context of zakat. Empathy refers to the ability to understand and share the feelings of others, which often motivates helping behavior (Nakagawa & Kosaka, 2022). In contrast, altruism refers to the desire to help others without expecting any personal gain or return (Farouk et al., 2018). Prior studies have consistently shown that empathy and altruism positively influence donation intentions and zakat compliance (Martins et al., 2014; Bin-Nashwan et al., 2020; Sawane et al., 2023). In Islamic philanthropy, these motivations are deeply embedded in the moral duty of giving, making them crucial predictors of *muzakki's* intention to adopt digital platforms for zakat, infaq, and sadaqah (Mu'ammal, 2022; Amin, 2022).

Previous Studies and Hypothesis

Perceived risk has been widely examined in the context of technology adoption, particularly in terms of security, privacy, psychological, and time-related risks. Security risk relates to concerns about data breaches, while privacy risk concerns exposure of personal information and the potential loss of digital privacy. Time risk refers to the effort or time wasted in learning to use fintech-based zakat services. In contrast, psychological risk refers to user anxiety or doubts about whether the system will function properly. Thakur and Srivastava (2014) found security to be one of the most influential barriers to technology adoption, while Oktavendi and Mu'ammal (2021, 2022) emphasized that monetary, security, and personal risks negatively affect *muzakki's* willingness to pay zakat online, with trust playing a mediating role. However, their framework did not incorporate psychological and time risks. Contextual factors, including socio-cultural conditions, digital literacy, infrastructure, and regulations, also influence these outcomes. For instance, Yadav et al. (2015) and Thakur and Srivastava (2014) showed mixed effects of risk perception in India, suggesting its influence is highly context-dependent. In Indonesia, Almustofa (2025) reported that psychological and time risks had minimal influence on fintech-based zakat decisions, whereas trust and perceived benefits were more decisive. These findings underscore that the impact of perceived risks varies across contexts, requiring further examination in relation to fintech-based zakat adoption.

Attitude and intention have consistently been central constructs in behavioral models such as TAM and TPB. Studies have shown that perceived usefulness and ease of use influence attitudes, which, in turn, impact behavioral intentions. Thas Thaker et al. (2018) found that these variables strongly encouraged participation in crowdfunding-waqf, while Yadav et al. (2015) demonstrated their predictive power for internet banking adoption even

in the presence of perceived risks. Similarly, Thakur and Srivastava (2014) noted that ease of use and readiness were pivotal in the uptake of mobile payments, although the effects varied between users and non-users. In Indonesia, Oktavendi and Mu'ammal (2021, 2022) demonstrated that perceived risk negatively influenced intention; however, its impact was mitigated by trust, which also enhanced attitudes toward fintech-based zakat. These findings suggest that attitudes remain a central pathway linking external perceptions and internal motivations with intention.

Beyond risk and attitude, prosocial drivers such as empathy and altruism have emerged as significant factors influencing digital donation and zakat behavior. Empathy refers to the ability to understand and share the feelings of others, which motivates prosocial actions. Altruism, on the other hand, reflects the desire to help without expecting any returns. Amin (2022) found that empathy, altruism, and subjective norms were strong predictors of online sadaqah among young graduates in Malaysia. Farouk et al. (2018) emphasized altruism as a determinant of zakat compliance, while Bin-Nashwan et al. (2020) highlighted the role of moral identity in shaping online giving in Gulf countries. Similarly, Sawane et al. (2023) and Martins et al. (2014) demonstrated a positive relationship between empathy and donation intentions, while Knowles et al. (2012) reinforced the role of empathy as a psychological antecedent of giving. In Indonesia, Mu'ammal (2022) underscored the importance of empathy and altruism in motivating the adoption of fintech for zakat, infaq, and sadaqah. Collectively, these studies confirm that prosocial motivations significantly influence *muzakki's* behavioral intention, complementing the predictive power of risk and attitude.

However, despite these insights, empirical research that simultaneously integrates emotional and moral drivers, such as empathy and altruism, with an expanded risk construct (including psychological, legal, and temporal risks) into established models like TAM and TPB remains limited, especially in countries with large Muslim populations such as Indonesia. Addressing this gap, the present study examines perceived risks (psychological, legal, and time) as factors that negatively affect attitudes toward fintech adoption, which in turn mediate their impact on intention. This approach aligns with the work of Wei et al. (2021), Yang and Liu et al. (2015), Featherman and Paul (2003), and Akturan and Tezcan (2012). The proposed model also incorporates traditional TAM and TPB variables, namely perceived usefulness, ease of use, subjective norm, and perceived behavioral control as positive predictors of intention through attitude (H1–H4, H9–H12). Furthermore, it integrates prosocial dimensions by hypothesizing that empathy positively influences altruism, which in

turn enhances intention (H6–H8, H14). Based on these previous studies, the following hypotheses are formulated in this study.

H₁. Subjective Norm (SN) has a positive effect on Attitude (ATT)

H₂. Perceived Behavioural Control (PBC) has a positive effect on Attitude (ATT)

H₃. Ease of Use (EOU) has a positive effect on Attitude (ATT)

H₄. Perceived Usefulness (PU) has a positive effect on Attitude (ATT)

H₅. Perceived Risk (PR) has a negative effect on Attitude (ATT)

H₆. Empathy (EMP) has a positive effect on Altruism (ALT)

H₇. Altruism (ALT) has a positive effect on Intention (INT)

H₈. Attitude (ATT) has a positive effect on Intention (INT)

H₉. Subjective Norm (SN) and influences Intention (INT) through Attitude (ATT) mediation

H₁₀. Perceived Behavioural Control (PBC) affects Intention (INT) through Attitude (ATT) mediation.

H₁₁. Ease of Use (EOU) influences Intention (INT) through Attitude (ATT) mediation

H₁₂. Perceived Usefulness (PU) influences Intention (INT) through Attitude (ATT) mediation

H₁₃. Perceived Risk (PR) influences Intention (INT) through Attitude (ATT) mediation

H₁₄. Empathy (EMP) influences Intention (INT) through Altruism (ALT) mediation

RESEARCH METHODS

This study employs a quantitative approach to examine the influence of various factors on *muzakki's* intention to pay zakat through financial technology platforms using Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM is a comprehensive multivariate analysis technique that offers numerous advantages, including the capability to analyze complex relationships between variables.

One notable benefit of this method is its suitability for small sample sizes and its independence from data normalization requirements. PLS-SEM is recognized as a flexible and reliable statistical tool, particularly effective in projecting research theories and handling complex multivariate models (Hair et al., 2014). This method allows for the identification and estimation of relationships between variables (Sinkovics et al., 2016) and can model multiple constructs simultaneously (Joseph et al., 2019). PLS-SEM is recognized as a highly flexible and robust method for both theoretical testing and predictive analysis (Henseler et al., 2015). Previous research has employed the PLS-SEM technique in studies on zakat, including work by Bin-Nashwan et al. (2020), which examined online donation behavior. Farouk et al. (2018) also utilized PLS-SEM to analyze zakat compliance patterns. Similarly, Mawardi et al. (2022) applied this method in investigating fintech-based zakat adoption, and Widiastuti et al. (2021) employed it to explore digital zakat management systems.

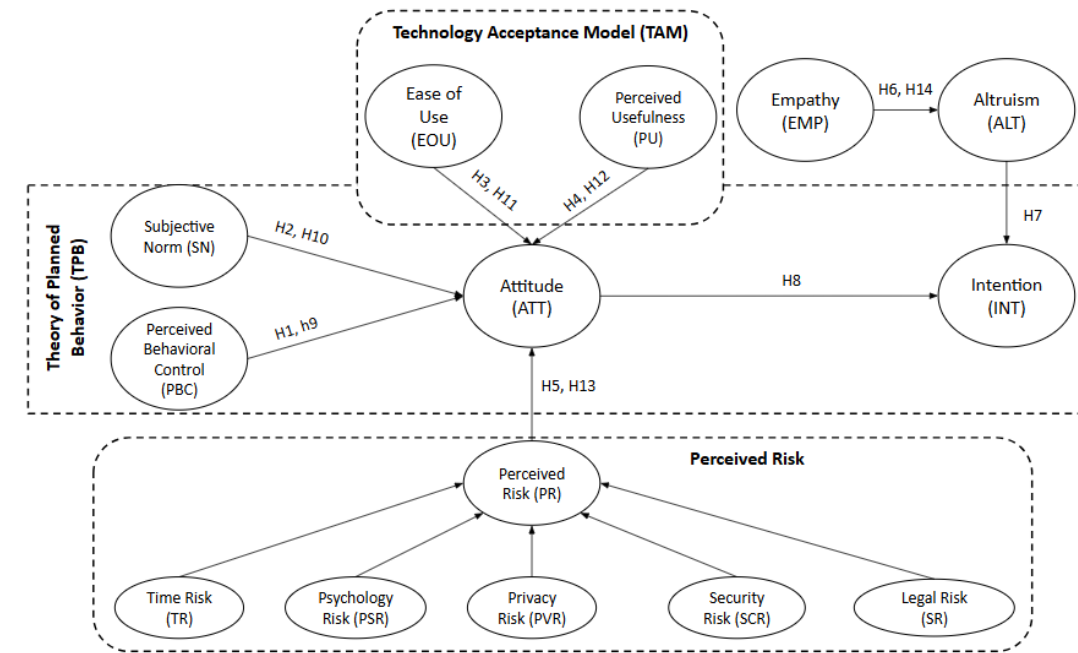


Figure 1. Conceptual Framework

Source: Authors' work adopted from Oktavendi & Mu'ammal (2021) and Al Mustofa (2025)

Figure 1 presents the conceptual framework illustrating the variables examined in this study. The study employed a purposive sampling technique, targeting respondents who met specific criteria relevant to the research. Questionnaires were distributed to these selected participants and completed online via Google Form, allowing the study to reach a broader range of respondents across Indonesia and ensuring that the data collected were reliable and pertinent to the study objectives. The distributed online questionnaire received 151 responses from respondents across Indonesia over a two-month period from September to October 2023. Of these, 150 responses met the established inclusion criteria and were subsequently included in the analysis.

The criteria of respondents were required to (i) be adult Indonesians aged 18 years or older; (ii) have utilized a digital financial technology platform within the past three months; (iii) have engaged in economic or business transactions through such platforms; (iv) possess a foundational understanding of zakat and prior experience in paying zakat, either zakat fitr or zakat maal; and (v) have familiarity and awareness of fintech advancements. These criteria were designed to ensure that the selected respondents possessed the necessary knowledge and experience to provide valuable insights into the research objectives.

This study specifically focuses on Generation Z, as they represent the demographic group that is most responsive to rapid technological change. As digital natives who have grown up with constant exposure to online platforms, they are accustomed to integrating

digital tools into nearly every aspect of daily life, including financial technology in the Islamic context, such as Islamic banking, capital market platforms, and takaful services. The relevance of this focus is further supported by recent statistics from the Indonesian Internet Service Providers Association (APJII), which reported that by 2024, Indonesia had a total internet penetration rate of 79.5%, with the majority of internet users falling within the Generation Z cohort (born 1997 to 2012), accounting for 34.40% of total users out of a total population of 278,696,200. Complementing this, findings from the Indonesia Gen Z Report 2022, by IDN Research Institute in collaboration with Populix, show that the percentage of Indonesian Gen Z who have participated in online donations reached 12% in 2022, an increase of approximately 9.3 percentage points from 2.7% in 2019.

The study adheres to the research ethics and guidelines established by Institut Teknologi Sepuluh Nopember and complies with all relevant legal requirements. Informed consent was obtained from all participants before their involvement, ensuring that each individual was fully informed about their role as a respondent. Participants were required to sign a consent form, indicating their voluntary agreement to participate in the study. This consent was obtained freely, without any form of coercion or undue influence. Each expert completed the questionnaire willingly and in a sound mental state. During the process, participants were not subjected to any form of pressure from external parties. The research team ensured strict confidentiality of all data and responses provided by participants, adhering to applicable laws and regulations governing the protection of respondent information. Any disclosure of confidential data or responses will be handled in accordance with legal standards to maintain the ethical integrity of the study.

RESULT

The demographic profile show that most respondents, or 73.3% from 150 respondents are under 23 years old, revealed majority of respondents are Generation Z. Apart from that, the respondent are predominantly female (56%) and generally falls in lower income level. The average respondent that 57% had an income of less than 1 (one) million rupiah, as well as 80% had completed high school, which indicating that most respondents were students. The result also presents information indicating that transferring money is the most common use of fintech, followed by paying bills such as electricity, water, and internet. The use of fintech for donation activities is only ranked third. In terms of donation types, alms and infaq are the types of donations most frequently made by respondents, followed by Disaster Assistance and Assistance for the Poor. Legally obligatory, Zakat is ranked fifth in the types of donations made through fintech. The outcome should concern all relevant stakeholders, especially Amil Zakat managers. Further details of the respondents' descriptive statistics are provided in Appendix 2.

To generate optimal results, data processed using PLS-SEM must satisfy multiple criteria, which include validity, reliability, and multicollinearity assessments. Convergent validity tests are conducted on the model and each indicator to evaluate the accuracy of the measurements. Additionally, discriminant validity tests are performed to ensure the reliability and overall integrity of the model's structure. In contrast, convergent validity tests are conducted to assess the internal consistency of each construct. When its constituent elements are in harmony, this notion becomes feasible and aids in the formation of conceptual understanding regarding latent variables (constructs). Discriminant validity is assessed to validate latent variable factor loadings and correlations. In contrast, collinearity statistics and variance inflation factor (VIF) values are utilized to construct the multicollinearity test (Hair et al., 2014). As illustrated in Figure 2, a PLS-SEM model was developed before the testing phase.

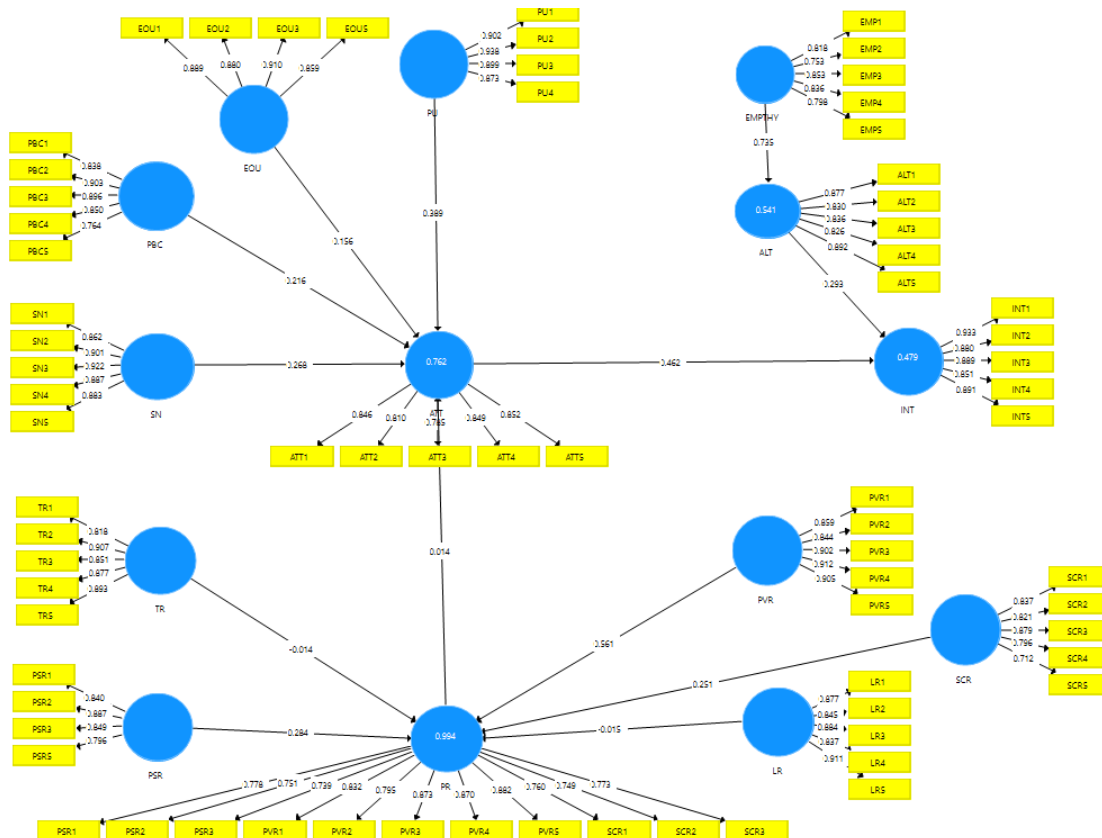


Figure 2. Smart Partial Least Squares Structural Equation Modeling

Source: Authors' work, 2025

The concurrent validity test in PLS-SEM was conducted by evaluating several measures, including loading factors, Average Variance Extracted (AVE), Composite Reliability

(CR), and Cronbach's alpha. Loading factors above 0.70 are preferred, though values above 0.50 remain acceptable. The results indicated that some indicators (EOU4, PSR4, PU5, and the combined Perceived Risk items SR, SR5, PR4, PR5, TR1, TR2, TR3, TR4, and TR5) fell below these thresholds and were therefore eliminated (see Appendix 3 and Appendix 4). Construct validity was confirmed by AVE values exceeding the minimum benchmark of 0.50, while reliability was assessed through Cronbach's alpha, with a minimum threshold of 0.60, and CR, which requires values above 0.70. In all cases, CR values were consistently higher than Cronbach's alpha, confirming the robustness of the constructs, as also noted by Abdullah and Jogiyanto (2015) and Sekaran and Bougie (2013). Table 1 presents these results in detail. Discriminant validity was established using the Fornell–Larcker criterion, cross-loadings, and the Heterotrait-Monotrait ratio (HTMT), with the square root of AVE for each construct exceeding its correlations with other constructs (Fornell & Larcker, 1981; Hair et al., 2014). Cross-loading analysis similarly showed higher item loadings on their corresponding constructs compared to others, and the HTMT confidence intervals did not include the value of 1, thereby further confirming discriminant validity (see Appendix 4). Finally, the multicollinearity test, measured by VIF, showed values ranging from 1.000 to 6.907, which remain below the threshold of 10 (Hair et al., 2014; Memon et al., 2017), indicating that all indicators satisfied the collinearity requirements (see Appendix 5).

Table 1
Construct Reliability and Validity

Variabel	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
ALT	0.906	0.907	0.93	0.727
ATT	0.886	0.887	0.916	0.687
EMP	0.871	0.873	0.906	0.66
EOU	0.907	0.908	0.935	0.783
INT	0.934	0.939	0.95	0.791
LR	0.923	0.995	0.94	0.759
PBC	0.904	0.911	0.929	0.725
PR	0.944	0.946	0.952	0.643
PSR	0.864	0.869	0.908	0.711
PU	0.925	0.927	0.947	0.816
PVR	0.93	0.932	0.947	0.783
SCR	0.869	0.883	0.905	0.657
SN	0.935	0.937	0.951	0.794
TR	0.919	0.922	0.939	0.756

Source: Author's work (2025)

Model fit was computed using the Standardized Root Mean Square Residual (SRMR). The square root of the discrepancy between the residuals of the sample covariance matrix and the hypothesized covariance model yields the SRMR (Hooper et al., 2008). Within the present study, an SRMR value of 0.09 is deemed an acceptable model fit, as indicated by values equal to or less than 0.10 (An et al., 2017). The path coefficient is estimated by examining the t-statistic value and bootstrapping results. At the 5% significance level, an item is considered significant if its t-statistical value is greater than 1.96 and its p-value is less than 0.05. In the interim, the parameters. The original sample, or coefficient, signifies the direction of influence. Positive or negative impacts, as well as the relationship between the independent variable and the dependent variable, are utilized to evaluate the original samples in this instance (Hair et al., 2014; Ghazali, 2008). A summary of the path coefficients is presented in Table 2.

Table 2
Partial Least Squares-Structural Equation Modelling Result

Hypotheses	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Results
Specific Direct Effect						
H1. SN → ATT	0.268	0.269	0.062	4.32	0	Significant
H2. PBC → ATT	0.216	0.223	0.089	2.416	0.016	Significant
H3. EOU → ATT	0.156	0.154	0.066	2.351	0.019	Significant
H4. PU → ATT	0.389	0.383	0.087	4.493	0	Significant
H5. PR → ATT	0.014	0.009	0.045	0.3	0.764	Not Significant
H6. EMP → ALT	0.735	0.738	0.043	17.182	0	Significant
H7. ALT → INT	0.293	0.291	0.082	3.592	0	Significant
H8. ATT → INT	0.462	0.466	0.08	5.789	0	Significant
Indirect Specific Effect						
H9. SN → ATT → INT	0.124	0.128	0.044	2.803	0.005	Significant
H10. PBC → ATT → INT	0.1	0.103	0.047	2.124	0.034	Significant
H11. EOU → ATT → INT	0.072	0.075	0.036	1.989	0.047	Significant
H12. PU → ATT → INT	0.18	0.175	0.053	3.378	0.001	Significant
H13. PR → ATT → INT	0.006	0.004	0.023	0.273	0.785	Not Significant
H14. EMP → ALT → INT	0.215	0.213	0.064	3.371	0.001	Significant

Source: Author's Own Work (2025)

DISCUSSION

Risk perception on attitudes and intentions

Risk perception in the context of this study refers to the assessment made by individuals regarding the potential hazards inherent in utilizing financial technology (fintech)

to fulfill their zakat responsibilities and donations. Based on the data presented in Table 2, it can be observed that the risk perception variable, encompassing dimensions such as time risk, psychological risk, legal risk, security risk, and privacy risk, does not exert a statistically significant impact on the attitudes of individuals (specifically, donors/*muzakkis* or potential donors) towards fulfilling their zakat obligations through fintech applications. This input demonstrates the extent of trust exhibited by donors/*muzakkis* towards established and emerging fintech platforms, mitigating any perceived dangers that could potentially jeopardize the transactional process facilitated by fintech apps. The non-significance of perceived risk can be attributed to the respondents' demographic profile, which is predominantly Generation Z. Growing up in a digitally connected environment, they perceive Islamic financial technology, including Sharia banking, capital market platforms, and takaful, as secure and reliable. Gen Z adapts quickly to technological changes, surpassing previous generations in multitasking and technology adoption (Putra, 2017). According to a consumer behavior research report on digital banking by Ipsos, digital banking transactions in Indonesia increased by 40.1% year-over-year in November 2024, primarily driven by Gen Z and Millennials. Bank Indonesia projects a 52.3% increase for 2025. The report further shows that over 50% of respondents were aged 25 to 44. These trends suggest that Gen Z is comfortable with digital financial services, which explains why perceived risk is not a significant concern for them in fintech engagement.

As mentioned above, the claim is substantiated by the continual advancements in financial technology and the notable acceptance and usage rate of technology, particularly within the Generation Z cohort. This study's findings indicate that risk perception does not significantly impact the *muzakki's* inclination to make zakat payments through fintech platforms, even when considering attitude as a moderating component. This observation aligns with previous studies by Chau and Ngai (2010) and Akuran and Tezcan (2012), which similarly found that risk considerations do not influence the intention to adopt mobile payment services.

Furthermore, several scholars have examined the connection between perceived risk and behavioral intentions by incorporating mediators into their research (Sraye, 2014; Pappas, 2016). Bashir and Madhavaiah (2015) and Wu et al. (2017) emphasized the significance of attitudes as a primary mediator in understanding the association between intentions and risk behavior. The study done by Yang et al. (2015) revealed that no statistically significant relationship was observed between perceived psychological risk or perceived time risk toward the readiness of Chinese individuals to accept mobile payments.

Moreover, as stated by Inouye (2015), a positive association exists between consumers' capacity to evaluate danger accurately and their disposition to endure it, which may result in increased participation in hazardous activities. However, this finding is

inconsistent with earlier studies that reported a significant relationship between perceived risk and consumers' willingness to engage in e-commerce. Ashoer and Said (2016) observed a clear link between risk perception and online purchasing behavior. Ariffin et al. (2018) similarly found that higher perceived risk influenced consumers' participation in digital transactions. Amirtha et al. (2020) also confirmed that risk perception affects the intention to engage in e-commerce activities. The utilization and motivations of users towards technology-based services are adversely impacted by a reduction in the perception of risk, which is attributed to the escalating security threats associated with wireless applications, such as m-wallets (Schierz et al., 2010; Singh et al., 2020). Verkijika (2020) conducted a study that demonstrated that risk perception plays a substantial role in shaping customers' perspectives on adopting novel technologies. Research has shown that perceived risks linked to technology use can reduce millennials' willingness to adopt such technologies, a finding that aligns with the observations of Giovanis and colleagues (2019).

Theory of Acceptance Model on attitudes and intentions

The results indicate a significant relationship between Perceived Usefulness (PU) and attitude in carrying out zakat obligations through fintech applications. Perceived Ease of Use (EOU) is also significantly associated with both attitude and the intention to perform these obligations, including a series of activities whose primary focus is to look at the influence of technology acceptance on attitudes that influence donating. The research results in Table 2 indicate that business mentoring has a positive impact on their business growth, as evidenced by the t-statistic values of H10 and H11, which are 2,124 and 1,989, respectively, and are more significant than 1.96, while the original sample values were 0.103 and 0.075. The perception of the usefulness of fintech technology is very positive. Prospective donors (*muzakki*) believe that emerging fintech applications have benefits, especially in fulfilling zakat obligations. *Muzakki* and potential donors perceive the fintech platform as a user-friendly tool with diverse functionalities. Chuang et al. (2016) found that Perceived Usefulness (PU) significantly predicts attitude. Elhajjar and Ouaida (2020) reported a strong relationship between PU and attitude. Similar effects have been identified by Giovanis et al. (2019) and Troise et al. (2020), with consistent findings also reported by Usman et al. (2020) and Yadav et al. (2015). This result contrasts with Niswah et al. (2019) and Alalwan et al., who highlighted differences in the impact of PU on intention (2016), and Arora and Sahney (2018), who discovered that PU had a positive effect on the intention to use fintech, but not with Troise et al. (2020), who find this not to be the case.

Furthermore, the perceived EOU (EOU) of the fintech platform influences both the attitude (direct effect) and intention (indirect effect) of *muzakki* towards using the fintech

platform for paying zakat and making donations. According to Usman et al. (2020), the most significant variable influencing consumers' attitudes towards using payment applications in Islamic philanthropy is perceived EOU. On the other hand, previous studies by Chuang et al. (2016), Giovanis et al. (2019), Elhajjar and Ouaida (2020), Arora and Sahney (2018), and Yang and Su (2017) have provided valuable insights on this matter. However, this positive effect of EOU on intention in this study contrasts with the findings of Tweneboah-Koduah et al. (2019), who reported that EOU did not significantly influence usage intentions. Similarly, Sheikh et al. (2020) found no significant effect of perceived EOU on intention. Thaker et al. (2018) also concluded that EOU does not affect intention, and Yadav et al. (2015) reported comparable results. Giovanis et al. (2019) further confirmed that perceived EOU had no meaningful impact on intention.

Theory of Planned Behaviors on attitudes and intentions

In this study, the attitudes and intentions of *muzakki* regarding zakat payment through digital fintech platforms are influenced by subjective norms or beliefs that determine whether a group or an individual should engage in a particular behavior. The research results in Table 2 indicate that Planned Behaviors significantly influence attitudes and intentions, as evidenced by the P values for the indirect effect on the subjective norm variable (0.005) and planned behavior control (0.034). This finding is considered significant because it is below 0.5. Generally, external factors such as culture, customs, habits, and community values shape subjective norms. This input means that *muzakki* will consider the suggestions, habits, and beliefs of individuals regarding the advantages of paying zakat via fintech. This study was conducted in the Indonesian community, which contains the world's largest Muslim population. In line with the growing trend of using digital platforms in all business and economic transactions experienced by society, and given that the younger generation comprises the majority of the sample, fulfilling zakat obligations via digital platforms is also expected to become a trend. This result can be explained by the fact that respondents who are citizens of Indonesia are members of a communal society.

Hofstede (1980) measured the individualism-collectivism index in over fifty nations across three regions. Collectivism is distinguished by its preference for closely knit social structures. Despite an imbalance of loyalties, individuals may expect certain family members or group members to care for them. Individuals are expected to adhere to the values of the group or society to which they belong. Individualism, on the other hand, supports a looser social structure in which people are expected to care only about themselves and their immediate families (Hofstede Insight). Indonesia scored 14 out of 100 for individualism, with a higher score indicating a more individualistic culture. Indonesian society is therefore a collectivist society. Thus, the opinions of others regarding the fulfilment of zakat obligations

through digital platforms have a significant impact on attitudes and intentions regarding zakat fulfilment through fintech.

The observed positive correlation between subjective norms, attitude, and intention to pay zakat through a fintech platform aligns with previous research findings. Al-Swidi et al. (2014) demonstrate that subjective norms and attitudes have a substantial relationship. Knowles et al. (2012) discovered a correlation between perceived social norms and charitable giving intentions. Subjective norms (SN) significantly influence the intention of respondents to use technology, according to Elhajjar and Ouaida (2020), Usman et al. (2020), Niswah et al. (2019), and Giovanis et al. (2019). Hanafiah and Hamdan (2021) also found that subjective norms have a positive and statistically significant impact on attitudes toward halal food. Afi and Aji (2021) found a similar correlation between subjective norms and attitudes towards halal cosmetics.

Perceived behavioral control (PBC) refers to the level of ease or difficulty someone associated with a fintech platform feels in fulfilling zakat obligations. Based on the findings, PBC has a positive and statistically significant influence on attitudes and intentions to fulfil zakat obligations via fintech platforms. This discovery suggests that the higher the level of consumer comfort or control in using fintech to fulfill zakat obligations, the greater the number of donors who will positively respond to zakat payments made via fintech. There are numerous free-to-use and downloadable fintech applications and platforms in Indonesia. In addition, countless amil institutions have developed applications or partnered with other service providers to offer zakat payment services through fintech platforms. Each existing fintech application and platform has its benefits, making it easier for consumers to choose one that suits their needs and preferences. This finding supports the work of Ajzen and Madden (1986) and Ajzen (1991), who discovered substantial associations between behavioral control and attitudes. The finding also supports Hanafiah and Hamdan's (2020) finding of a positive correlation between PBC and halal food consumption attitudes. Niswah et al. (2019), Chen et al. (2019), Ghazali et al. (2018), Giovanis et al. (2019), Troise et al. (2020), and Yadav et al. (2015) discovered that PBC had a positive and statistically significant influence on intention. Smith and McSweeney (2007) and Linden (2011) found no correlation between subjective norms and attitudes, on the other hand.

Empathy and Altruism on attitudes and intentions

Empathy is the capacity to feel and comprehend the emotions, needs, and perspectives of others. In the context of zakat payments through fintech, a person's level of empathy for those in need of zakat assistance can impact their attitudes and intentions. Based on the research results, empathy and altruism influence attitudes and intentions to

donate, as indicated by a significant P value of 0. In addition, altruism has a direct and positive effect on intentions, with a P value of 0.001. A more empathetic individual may feel a greater moral obligation to pay zakat and assist those in need. Altruism, meanwhile, is behavior with the intent to help others without regard for personal gain. A person with an altruistic disposition is more likely to use fintech to pay zakat to assist those in need, regardless of the individual benefits or convenience the technology provides. A person's attitude towards using fintech to pay zakat and their intent to do so are influenced by altruism and empathy, with a person's intention being greater if they have empathy for those in need and altruistic motivation to assist them. Consequently, empathy and altruism can influence an individual's attitudes and intentions regarding the use of fintech for paying zakat. The greater a person's empathy and altruistic motivation, the more likely they are to have a favorable outlook and a strong intent to use fintech to pay zakat. This study demonstrates that empathy and altruism have a positive effect on zakat attitudes and intentions. This is consistent with studies conducted by Nakagawa et al. (2022), and Sinkovics et al (2023).

Attitude toward intention

The optimistic outlook or attitude exhibited by participants in utilizing fintech for zakat payments has a constructive impact on the dependent variable, precisely the inclination or intention to make zakat payments through fintech. This conclusion is supported by the results in Table 2, which show a direct effect on the P value of attitude influencing intention of 0, which is below 0.5. The development of a positive attitude is shaped by various factors, including the societal culture in Indonesia (SN), the convenience of accessing the fintech zakat platform (PBC), the insignificant impact of perceived risk (PR), and individuals' acceptance of technology, encompassing their perceptions of ease of use (EOU) and usefulness (PU). The identification of a positive association between attitude and intention aligns with previous studies conducted by Chuang et al. (2016), Usman et al. (2020), Elhajjar and Ouaida (2020), Giovanis et al. (2019), Safeena et al. (2013), and Yadav et al. (2015), which also observed a positive impact of attitude on the intention to utilise or embrace novel technology.

Based on these findings, this study offers practical guidance by bridging theoretical insights and real-world applications, showing how prosocial and technological factors can be leveraged to enhance user trust and engagement in Islamic digital finance. For stakeholders, such as BAZNAS and fintech operators, it is essential to prioritize strategies that enhance empathy and altruism toward prospective *muzzakis*, particularly Generation Z, as these prosocial factors have been found to significantly influence attitudes alongside traditional TPB and TAM constructs. Although Generation Z does not perceive risk as a significant

barrier, it remains essential for BAZNAS and fintech providers to continuously maintain and improve platform security and service quality to ensure that perceived risk never becomes a concern. Specific strategies include implementing visible security features, providing user education on safe transactions, establishing transparent reporting mechanisms, and running campaigns that reinforce trust and reliability. Academically, this study highlights the importance of integrating altruism and empathy into technology acceptance models, thereby providing a stronger foundation for future research on fintech adoption in the context of digital zakat payments.

CONCLUSION

This study validates the integration of the Theory of Planned Behavior, the Technology Acceptance Model, altruism, empathy, and perceived risk in shaping individuals' attitudes and intentions to make zakat payments through fintech applications. The findings highlight that altruism, compassion, perceived usefulness, ease of use, subjective norms, and perceived behavioral control significantly influence attitudes and intentions, whereas perceived risk does not have a significant influence. The conclusion indicates that prospective zakat payers, particularly Generation Z, are comfortable using fintech platforms, reflecting their confidence in digital financial services. Theoretically, this study contributes by integrating altruism and empathy as prosocial constructs with an expanded view of perceived risk into a single framework. It provides a comprehensive understanding of how emotional, moral, and technological factors jointly drive fintech adoption for zakat payments, highlighting the mechanisms through which socio-psychological motivations interact with perceptions of usefulness and ease of use. This integration enriches existing fintech and zakat literature by demonstrating that prosocial tendencies can significantly influence technological adoption beyond traditional TPB and TAM constructs.

The results suggest that fintech providers and BAZNAS should not only maintain high-quality, secure services but also implement targeted strategies to strengthen user trust and engagement. These include visible security features, user education on safe digital transactions, transparent reporting mechanisms, and campaigns that emphasize altruistic and empathetic motivations. By aligning platform design and communication with users' prosocial values, stakeholders can foster sustained adoption of digital zakat payments among Generation Z and other user groups. The study has limitations, as the sample is predominantly Generation Z with generally lower income levels. Future research should expand to include older demographics, explore generational differences, involve participants with limited financial literacy or technological experience, and test the model across diverse cultural and national contexts to enhance generalizability.

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AUTHOR CONTRIBUTIONS

The conception and design of the study, as well as the final approval of the version to be published, were carried out by ZM. AR conducted the review of previous studies and literature. MUAM was responsible for the analysis and interpretation of data and the preparation of the manuscript. PRF undertook data collection and drafted the initial version of the paper. S provided critical analysis to enhance the intellectual content, while LR ensured that the results aligned with the theoretical framework. All authors have reviewed and approved the final version of the manuscript and agree to take responsibility for all aspects of the work. We declare no conflict of interest among authors.

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APPENDIX

Appendix 1. Questionnaire

Table 3
Questionnaire

Variable	Statement (Indicator Scale 1-5)	Supporting Literature
Ease of Use	EOU1: I find donating via fintech applications easy to use	Muflih (2022); Usman et al (2020); Ninglasari (2021); Akturan dan Tezcan (2012)
	EOU2: I feel that donating through a fintech application has clear and easy-to-understand payment procedures and instructions	
	EOU3: I feel like donating through a user-friendly fintech application	
	EOU4: I feel donating through fintech applications is easy	

Variable	Statement (Indicator Scale 1-5)	Supporting Literature
<i>Perceived Usefulness</i>	for all ages to operate	Muflih, Muhammad (2022); Usman et al (2020); Ninglasari (2021); Akturan dan Tezcan (2012)
	EOU5: I feel donating via fintech applications can save me a lot of time and energy	
	PU1: I think fintech applications are beneficial in fulfilling my desire to donate	
	PU2: I feel that fintech applications help me in donating	
	PU3: I feel that Fintech applications can help me choose to channel donations to the programs I want	
<i>Attitude</i>	PU4: I feel donating via fintech applications is more practical	Wang et al (2018); Veludo-de-Oliveira (2017); Andam & Osman (2019); Ninglasari (2021)
	PU5: I feel like I donate more through fintech applications, their usefulness compared to paying offline	
	ATT1: I think donating via fintech apps is a wise idea	
	ATT2: In my opinion, donating via fintech applications is a positive thing	
	ATT3: I think donating via Fintech applications is trendy or futuristic	
<i>Perceived Behavioural Control</i>	ATT4: In my opinion, donating via Fintech applications is a fun thing	Usman et al (2020); Haji-Othman et al (2017); Shih, Y. Y., & Fang, K. (2004); Andam & Osman (2019); Ninglasari (2021)
	ATT5: I like to donate via fintech applications	
	PBC1: I have the knowledge to donate via Fintech applications	
	PBC2: I can donate via the Fintech application	
	PBC3: I can make decisions independently to use Fintech applications as a means of donating	
<i>Subjective Norm</i>	PBC4: When I want to donate via a Fintech application, I have full awareness and do not receive pressure from anywhere	Usman et al (2020); Shih, Y. Y., & Fang, K. (2004) ; Ninglasari (2021)
	PBC5: I can seek help if I have difficulty using Fintech applications to donate	
	SN1: People who are important to me (such as family, friends, and teachers) think that I should try using Fintech applications to donate	
	SN2: I followed the advice of important people around me to donate via the Fintech application	
	SN3: I intend to use online donation services because people around me donate via the Fintech application	
	SN4: My role model supports me in donating through the Fintech application	

Variable	Statement (Indicator Scale 1-5)	Supporting Literature
	SN5: My family and friends influenced my decision to donate via the Fintech application	
<i>Perceived Security Risk</i>	SCR1: I'm worried that irresponsible people will gain access to my account (illegally) when I use a fintech application to donate	Saha, P., & Kiran, K. B. (2022); Pillai, S. G et al (2022); Yang, Y., Liu et al (2015) ; Akturan dan Tezcan (2012)
	SCR2: I'm worried that there will be problems with the device I'm using (the cellphone battery runs out or the internet connection is lost), which will affect the success of donating via fintech	
	SCR3: I'm worried that my PIN code or password will fall into the wrong hands when I donate via the fintech application	
	SCR4: I'm worried about donating via fintech, due to weak data security protection	
	SCR5: I am afraid that I will enter the wrong donation amount when donating via fintech, resulting in losses for me	
<i>Perceived Privacy Risk</i>	PVR1: I am worried that Fintech Application service providers may provide/sell my personal information to other companies without my consent	Saha, P., & Kiran, K. B. (2022); Pillai, S. G et al (2022) ; Akturan dan Tezcan (2012)
	PVR2: I'm worried that if I frequently use donation services via Fintech applications, it will increase the possibility of receiving spam / SMS messages	
	PVR3: I am worried that my personal information could be intercepted illegally	
	PVR4: I am afraid that my personal information could be misused if I donate via a fintech platform	
	PVR5: I am worried that my data can be tracked freely	
<i>Perceived Psychology Risk</i>	PSR1: Donating via Fintech applications makes me worried about whether the funds will be distributed or not	Wei, M.F. et al (2021), Yang Y.Liu et al (2015)
	PSR2: Donating via Fintech applications makes me worried whether the funds will be distributed or not	
	PSR3: When using the Fintech application, I am worried that the donation payment will be rejected by the system	
	PSR4: I feel anxious if there are errors in operating the Fintech application	
	PSR5: I feel anxious if the donation payment via the Fintech application fails	
<i>Perceived Time Risk</i>	TR1: In my opinion, it takes a long time to learn how to use Fintech applications	Feathermana & Paul (2003) ; Akturan dan Tezcan (2012) ; Yang Y.Liu et al (2015)
	TR2: In my opinion, it takes a long time to wait for donations to be processed via fintech	

Variable	Statement (Indicator Scale 1-5)	Supporting Literature
	TR3: In my opinion, it takes a long time to choose the procedures that must be followed when there is a failure in donating via fintech, when there are technical problems/system errors	
	TR4: In my opinion, it takes a long time to switch to using another Fintech application to make donations, when the application we usually use cannot meet expectations (cannot be used)	
	TR5: In my opinion, fintech applications need a long time to upgrade the application and improve its performance	
<i>Ubiquity</i>	UB1: Donating via Fintech applications can be done at any time when I want	Giovanis et al. (2019); Elhajjar dan Ouaida (2020); Shuynan Mary Ho et al. (2017); Chuang et al. (2016)
	UB2: Donating via fintech applications is very practical because I can pay without difficulty wherever I am	
	UB3: Donate via fintech applications, providing fast payment responses - without waiting days to ensure the success of the donation process	
	UB4: Fintech applications allow me to get information about donations at any time	
	UB5: I can donate via the Fintech application regularly according to the schedule I made	
<i>Empathy</i>	EMP1: I can understand the needs of people who are less fortunate than I am	Nakagawa dan Kosaka (2022); Carolina Martins et al. (2014); Knowles et al. (2012)
	EMP2: I am moved when other people have problems	
	EMP3: I easily empathize with those who need help	
	EMP4: I find it easy to imagine how other people feel	
	EMP5: When I hear other people's difficulties, I immediately want to help them	
<i>Altruism</i>	ALT1: Helping others is one of the most important goals in my life	Nakagawa dan Kosaka (2022); Bin-Nashwan et al. (2020); Farouk et al. (2018)
	ALT2: I believe in the saying "it is better to give than to receive"	
	ALT3: I enjoy working for the welfare/happiness of other people	
	ALT4: I enjoy seeing other people prosperous	
	ALT5: Helping others is one of the most important aspects of my life	
<i>Trust</i>	TRS1: In my opinion, the fintech application will comply with the terms and conditions when I use it to donate	Muflih dan Juliana (2021); Oktavendi dan Mu'ammal

Variable	Statement (Indicator Scale 1-5)	Supporting Literature
	TRS2: In my opinion, fintech applications can be relied on for making donations	(2021); Shuynan Mary Ho et al. (2017); Schierz et al. (2010)
	TRS3: In general, I believe in fintech's ability to channel my donations to the target	
	TRS4: I trust the ability of fintech applications to maintain the confidentiality of my data when donating	
	TRS5: In general, I believe that fintech applications can help me donate	
<i>Enjoyment</i>	ENJ1: Using fintech to donate is fun	Wei et al. (2021); Verkijika (2020); Amirtha et al. (2020)
	ENJ2: Overall, using fintech to donate makes a good impression	
	ENJ3: I think using fintech to donate is interesting	
	ENJ4: Donating with fintech gives me pleasure	
	ENJ5: Donating with fintech makes me excited	
<i>Intention</i>	INT1: I have the intention to donate via the fintech application immediately	Usman et al (2020); Sandhu et al (2022) ; Akturan dan Tezcan (2012) ; Muflih (2022); Ninglasari (2021)
	INT2: I intend to donate via Fintech applications in the future	
	INT3: I will often use Fintech applications to donate	
	INT 4: I intend to donate via the Fintech application because it is safe	
	INT 5: I intend to recommend other people to donate via the Fintech application	

Source: Author's own data (2025)

Appendix 2. Statistic Descriptive

Table 4
Statistic Descriptive

Profile	Frequency (N=150)	(%)
Gender		
Male	66	44
Female	84	56
Age		
<23 years old	110	73
24-39 years old	15	10
40-55 years old	23	15
56-74 years old	2	1
Income		
<1.000.000	86	57
1.000.001 - 2.500.000	28	19

Profile	Frequency (N=150)	(%)
2.500.001 - 5.000.000	18	12
5.000.001 - 10.000.000	13	9
10.000.001 - 15.000.000	1	1
>15.000.000	4	3
Educational Background		
Senior High School	120	80
Academic degree	5	3
Bachelor	21	14
Magister	2	1
Doctoral	2	1

Profile	Rank				
	1	2	3	4	5
Fintage Usage	Transferring money	Paying bills (electricity, water, internet)	Donation activities	-	-
Donation Type	Alms (sedekah) & Infaq	Disaster Assistance	Assistance for the Poor	Scholar	Zakat

Source: Author's Own Work (2025)

Appendix 3. Factor Loading Values

Table 5
Factor Loading Values

BEFORE CORRECTION														
Item	ALT	ATT	EMPTHY	EOU	INT	LR	PBC	PR	PSR	PU	PVR	SCR	SN	TR
ALT1	0.877													
ALT2	0.83													
ALT3	0.836													
ALT4	0.826													
ALT5	0.892													
ATT1		0.847												
ATT2		0.809												
ATT3		0.784												
ATT4		0.849												
ATT5		0.853												
EMP1			0.818											
EMP2			0.753											
EMP3			0.853											

EMP4	0.836		
EMP5	0.798		
EOU1		0.864	
EOU2		0.882	
EOU3		0.893	
EOU4		0.568	
EOU5		0.841	
INT1		0.933	
INT2		0.88	
INT3		0.889	
INT4		0.851	
INT5		0.891	
LR1		0.869	
LR2		0.852	
LR3		0.889	
LR4		0.858	
LR5		0.899	
PBC1			0.838
PBC2			0.903
PBC3			0.896
PBC4			0.85
PBC5			0.764
PSR1			0.802
PSR1		0.762	
PSR2			0.865
PSR2		0.755	
PSR3			0.834
PSR3		0.768	
PSR4			0.814
PSR4		0.683	
PSR5			0.832
PSR5		0.707	
PU1			0.901
PU2			0.922
PU3			0.874
PU4			0.861
PU5			0.638
PVR1			0.86
PVR1		0.791	
PVR2			0.844
PVR2		0.747	
PVR3			0.902
PVR3		0.822	
PVR4			0.911
PVR4		0.811	
PVR5			0.905

PVR5	0.828	
SCR1		0.831
SCR1	0.74	
SCR2		0.813
SCR2	0.712	
SCR3		0.88
SCR3	0.777	
SCR4		0.801
SCR4	0.663	
SCR5		0.723
SCR5	0.578	
SN1		0.862
SN2		0.901
SN3		0.922
SN4		0.887
SN5		0.883
TR1		0.813
TR1	0.464	
TR2		0.904
TR2	0.498	
TR3		0.855
TR3	0.434	
TR4		0.88
TR4	0.486	
TR5		0.894
TR5	0.466	

AFTER CORRECTION

Item	ALT	ATT	EMPTHY	EOU	INT	LR	PBC	PR	PSR	PU	PVR	SCR	SN	TR
ALT1	0.877													
ALT2	0.83													
ALT3	0.836													
ALT4	0.826													
ALT5	0.892													
ATT1		0.846												
ATT2		0.81												
ATT3		0.785												
ATT4		0.849												
ATT5		0.852												
EMP1			0.818											
EMP2			0.753											
EMP3			0.853											
EMP4			0.836											
EMP5			0.798											

EOU1	0.889		
EOU2	0.88		
EOU3	0.91		
EOU5	0.859		
INT1	0.933		
INT2	0.88		
INT3	0.889		
INT4	0.851		
INT5	0.891		
LR1	0.877		
LR2	0.845		
LR3	0.884		
LR4	0.837		
LR5	0.911		
PBC1	0.838		
PBC2	0.903		
PBC3	0.896		
PBC4	0.85		
PBC5	0.764		
PSR1	0.84		
PSR1	0.778		
PSR2	0.887		
PSR2	0.751		
PSR3	0.849		
PSR3	0.739		
PSR5	0.796		
PU1	0.902		
PU2	0.938		
PU3	0.899		
PU4	0.873		
PVR1	0.859		
PVR1	0.832		
PVR2	0.844		
PVR2	0.795		
PVR3	0.902		
PVR3	0.873		
PVR4	0.912		
PVR4	0.87		
PVR5	0.905		
PVR5	0.882		
SCR1	0.837		
SCR1	0.76		
SCR2	0.821		
SCR2	0.749		
SCR3	0.879		

SCR3	0.773	
SCR4		0.796
SCR5		0.712
SN1		0.862
SN2		0.901
SN3		0.922
SN4		0.887
SN5		0.883
TR1		0.818
TR2		0.907
TR3		0.851
TR4		0.877
TR5		0.893

Source: Author's Own Work (2025)

Appendix 4. Discriminant Validity Test

Table 6
Discriminant Validity Test

Fornell-Lacker criterion														
	ALT	ATT	EMPTHY	EOU	INT	LR	PBC	PR	PSR	PU	PVR	SCR	SN	TR
ALT	0.853													
ATT	0.664	0.829												
EMP	0.735	0.672	0.812											
EOU	0.514	0.714	0.554	0.885										
INT	0.6	0.657	0.6	0.531	0.889									
LR	0.645	0.635	0.652	0.586	0.759	0.871								
PBC	0.674	0.757	0.676	0.71	0.622	0.716	0.852							
PR	0.38	0.271	0.351	0.184	0.173	0.155	0.252	0.802						
PSR	0.377	0.243	0.311	0.072	0.207	0.16	0.203	0.864	0.843					
PU	0.645	0.811	0.633	0.746	0.6	0.599	0.786	0.237	0.184	0.903				
PVR	0.352	0.254	0.348	0.215	0.148	0.154	0.255	0.962	0.757	0.228	0.885			
SCR	0.325	0.226	0.291	0.161	0.16	0.155	0.234	0.857	0.647	0.229	0.763	0.811		
SN	0.391	0.627	0.473	0.419	0.58	0.423	0.45	0.308	0.332	0.494	0.283	0.219	0.891	
TR	0.023	-0.026	0.15	-0.011	0.033	0.034	-0.023	0.342	0.42	-0.073	0.291	0.294	0.179	0.87

Heterotrait-Monotrait ratio (HTMT)														
	ALT	ATT	EMPTHY	EOU	INT	LR	PBC	PR	PSR	PU	PVR	SCR	SN	TR
ALT	X													
ATT	0.742	X												
EMP	0.826	0.766	X											
EOU	0.568	0.797	0.621	X										
INT	0.646	0.719	0.664	0.573	X									
LR	0.692	0.693	0.72	0.63	0.814	X								

PBC	0.747	0.844	0.761	0.784	0.672	0.778	X								
PR	0.412	0.298	0.383	0.203	0.187	0.152	0.27	X							
PSR	0.432	0.284	0.364	0.103	0.235	0.177	0.232	0.959	X						
PU	0.706	0.894	0.704	0.814	0.639	0.638	0.855	0.253	0.208	X					
PVR	0.385	0.281	0.384	0.235	0.159	0.15	0.277	1.021	0.842	0.246	X				
SCR	0.358	0.258	0.322	0.183	0.184	0.171	0.263	0.938	0.738	0.255	0.836	X			
SN	0.42	0.684	0.526	0.451	0.622	0.454	0.483	0.326	0.371	0.527	0.303	0.242	X		
TR	0.071	0.07	0.171	0.065	0.052	0.084	0.103	0.369	0.472	0.084	0.313	0.332	0.193	X	

Cross-loadings														
	ALT	ATT	EMPTHY	EOU	INT	LR	PBC	PR	PSR	PU	PVR	SCR	SN	TR
ALT1	0.877	0.578	0.645	0.442	0.469	0.529	0.579	0.375	0.344	0.576	0.35	0.312	0.337	0.072
ALT2	0.83	0.555	0.596	0.466	0.528	0.554	0.567	0.335	0.326	0.529	0.31	0.306	0.314	0.047
ALT3	0.836	0.58	0.676	0.394	0.529	0.531	0.527	0.31	0.311	0.497	0.29	0.262	0.403	0.013
ALT4	0.826	0.568	0.577	0.455	0.511	0.551	0.593	0.304	0.327	0.565	0.279	0.233	0.293	-0.049
ALT5	0.892	0.547	0.635	0.44	0.517	0.583	0.611	0.298	0.302	0.585	0.272	0.273	0.312	0.015
ATT1	0.535	0.846	0.549	0.621	0.533	0.499	0.6	0.223	0.175	0.689	0.215	0.184	0.599	0.018
ATT2	0.616	0.81	0.621	0.658	0.524	0.621	0.699	0.191	0.139	0.763	0.173	0.215	0.375	-0.041
ATT3	0.567	0.785	0.561	0.538	0.561	0.532	0.64	0.273	0.289	0.595	0.239	0.222	0.426	-0.038
ATT4	0.495	0.849	0.517	0.568	0.554	0.467	0.604	0.213	0.208	0.652	0.216	0.12	0.578	-0.036
ATT5	0.54	0.852	0.539	0.573	0.552	0.514	0.595	0.227	0.203	0.657	0.21	0.197	0.613	-0.012
EMP1	0.616	0.601	0.818	0.557	0.495	0.596	0.614	0.339	0.266	0.589	0.339	0.302	0.395	0.077
EMP2	0.544	0.499	0.753	0.341	0.529	0.481	0.479	0.188	0.22	0.463	0.153	0.166	0.463	0.129
EMP3	0.637	0.521	0.853	0.488	0.466	0.609	0.624	0.316	0.256	0.516	0.323	0.278	0.311	0.115
EMP4	0.581	0.556	0.836	0.447	0.501	0.511	0.53	0.24	0.215	0.515	0.237	0.208	0.379	0.098
EMP5	0.604	0.551	0.798	0.407	0.452	0.442	0.488	0.328	0.303	0.484	0.344	0.218	0.385	0.19
EOU1	0.489	0.63	0.508	0.889	0.461	0.556	0.677	0.132	0.03	0.664	0.153	0.13	0.361	-0.015
EOU2	0.405	0.631	0.489	0.88	0.453	0.513	0.622	0.19	0.057	0.617	0.236	0.15	0.405	0.016
EOU3	0.481	0.647	0.48	0.91	0.509	0.522	0.628	0.158	0.082	0.676	0.172	0.152	0.38	-0.02
EOU5	0.445	0.619	0.485	0.859	0.455	0.481	0.586	0.172	0.084	0.682	0.201	0.138	0.337	-0.019
INT1	0.58	0.618	0.601	0.532	0.933	0.701	0.616	0.216	0.242	0.594	0.187	0.192	0.56	0.055
INT2	0.58	0.61	0.549	0.507	0.88	0.712	0.595	0.177	0.164	0.599	0.147	0.181	0.45	-0.024
INT3	0.535	0.586	0.493	0.448	0.889	0.649	0.537	0.171	0.205	0.504	0.149	0.158	0.522	0.039
INT4	0.407	0.494	0.46	0.398	0.851	0.666	0.455	0.064	0.135	0.408	0.055	0.035	0.528	0.051
INT5	0.54	0.597	0.548	0.46	0.891	0.646	0.543	0.121	0.165	0.536	0.102	0.122	0.528	0.031
LR1	0.597	0.576	0.582	0.515	0.674	0.877	0.665	0.123	0.13	0.551	0.127	0.102	0.384	-0.007
LR2	0.556	0.553	0.557	0.536	0.634	0.845	0.61	0.099	0.068	0.492	0.103	0.141	0.317	0.065
LR3	0.569	0.586	0.563	0.485	0.695	0.884	0.591	0.134	0.175	0.527	0.117	0.124	0.444	0.039
LR4	0.454	0.456	0.526	0.43	0.62	0.837	0.547	0.069	0.1	0.45	0.068	0.092	0.374	0.099
LR5	0.593	0.569	0.601	0.557	0.678	0.911	0.673	0.191	0.176	0.556	0.195	0.18	0.342	0.003
PBC1	0.542	0.618	0.54	0.614	0.527	0.624	0.838	0.274	0.23	0.647	0.285	0.237	0.473	0.047
PBC2	0.57	0.663	0.541	0.611	0.559	0.608	0.903	0.243	0.193	0.673	0.247	0.226	0.37	-0.047
PBC3	0.618	0.725	0.634	0.631	0.561	0.581	0.896	0.236	0.186	0.748	0.229	0.23	0.44	-0.081
PBC4	0.569	0.639	0.554	0.647	0.524	0.595	0.85	0.166	0.127	0.72	0.17	0.158	0.317	-0.104
PBC5	0.572	0.564	0.613	0.517	0.474	0.658	0.764	0.149	0.125	0.541	0.149	0.138	0.308	0.112

PSR1	0.284	0.135	0.25	0.062	0.096	0.085	0.188	0.778	0.84	0.114	0.706	0.564	0.178	0.324
PSR1	0.284	0.135	0.25	0.062	0.096	0.085	0.188	0.778	0.84	0.114	0.706	0.564	0.178	0.324
PSR2	0.349	0.287	0.298	0.104	0.208	0.162	0.218	0.751	0.887	0.215	0.647	0.528	0.338	0.341
PSR2	0.349	0.287	0.298	0.104	0.208	0.162	0.218	0.751	0.887	0.215	0.647	0.528	0.338	0.341
PSR3	0.255	0.135	0.146	-0.028	0.138	0.072	0.057	0.739	0.849	0.105	0.629	0.578	0.286	0.42
PSR3	0.255	0.135	0.146	-0.028	0.138	0.072	0.057	0.739	0.849	0.105	0.629	0.578	0.286	0.42
PSR5	0.399	0.278	0.372	0.11	0.276	0.239	0.23	0.635	0.796	0.195	0.562	0.512	0.33	0.334
PU1	0.578	0.729	0.56	0.654	0.53	0.5	0.657	0.192	0.132	0.902	0.199	0.171	0.486	-0.052
PU2	0.599	0.779	0.627	0.679	0.564	0.551	0.765	0.236	0.204	0.938	0.22	0.214	0.505	-0.064
PU3	0.585	0.694	0.544	0.655	0.517	0.53	0.676	0.224	0.159	0.899	0.2	0.262	0.426	-0.086
PU4	0.569	0.725	0.552	0.706	0.555	0.583	0.738	0.203	0.166	0.873	0.203	0.185	0.365	-0.063
PVR1	0.268	0.195	0.311	0.193	0.117	0.112	0.195	0.832	0.648	0.187	0.859	0.689	0.259	0.262
PVR1	0.268	0.195	0.311	0.193	0.117	0.112	0.195	0.832	0.648	0.187	0.859	0.689	0.259	0.262
PVR2	0.356	0.272	0.363	0.189	0.187	0.138	0.232	0.795	0.673	0.219	0.844	0.551	0.271	0.223
PVR2	0.356	0.272	0.363	0.189	0.187	0.138	0.232	0.795	0.673	0.219	0.844	0.551	0.271	0.223
PVR3	0.338	0.209	0.301	0.17	0.063	0.102	0.196	0.873	0.661	0.188	0.902	0.71	0.236	0.302
PVR3	0.338	0.209	0.301	0.17	0.063	0.102	0.196	0.873	0.661	0.188	0.902	0.71	0.236	0.302
PVR4	0.336	0.261	0.306	0.216	0.171	0.189	0.266	0.87	0.675	0.212	0.912	0.704	0.232	0.234
PVR4	0.336	0.261	0.306	0.216	0.171	0.189	0.266	0.87	0.675	0.212	0.912	0.704	0.232	0.234
PVR5	0.264	0.188	0.263	0.186	0.12	0.139	0.238	0.882	0.695	0.202	0.905	0.712	0.26	0.262
PVR5	0.264	0.188	0.263	0.186	0.12	0.139	0.238	0.882	0.695	0.202	0.905	0.712	0.26	0.262
SCR1	0.324	0.324	0.372	0.219	0.209	0.146	0.209	0.76	0.57	0.253	0.659	0.837	0.355	0.236
SCR1	0.324	0.324	0.372	0.219	0.209	0.146	0.209	0.76	0.57	0.253	0.659	0.837	0.355	0.236
SCR2	0.31	0.228	0.227	0.151	0.183	0.183	0.25	0.749	0.596	0.194	0.654	0.821	0.178	0.14
SCR2	0.31	0.228	0.227	0.151	0.183	0.183	0.25	0.749	0.596	0.194	0.654	0.821	0.178	0.14
SCR3	0.269	0.154	0.24	0.127	0.041	0.035	0.158	0.773	0.564	0.19	0.706	0.879	0.127	0.293
SCR3	0.269	0.154	0.24	0.127	0.041	0.035	0.158	0.773	0.564	0.19	0.706	0.879	0.127	0.293
SCR4	0.223	0.027	0.192	0.011	0.052	0.079	0.127	0.628	0.452	0.095	0.578	0.796	0.034	0.288
SCR5	0.161	0.153	0.108	0.127	0.17	0.21	0.207	0.518	0.409	0.191	0.452	0.712	0.176	0.254
SN1	0.42	0.618	0.454	0.457	0.534	0.453	0.523	0.342	0.339	0.495	0.313	0.281	0.862	0.13
SN2	0.357	0.545	0.439	0.346	0.504	0.342	0.406	0.311	0.328	0.437	0.288	0.24	0.901	0.189
SN3	0.327	0.566	0.443	0.39	0.541	0.377	0.38	0.223	0.26	0.469	0.201	0.146	0.922	0.145
SN4	0.271	0.525	0.375	0.307	0.492	0.337	0.343	0.269	0.308	0.392	0.248	0.192	0.887	0.198
SN5	0.354	0.526	0.386	0.352	0.509	0.36	0.331	0.216	0.236	0.395	0.204	0.104	0.883	0.139
TR1	-0.005	-0.043	0.111	-0.057	0.046	-0.026	-0.09	0.304	0.348	-0.068	0.264	0.273	0.219	0.818
TR2	0.012	-0.049	0.107	-0.08	0.033	0.011	-0.071	0.322	0.382	-0.079	0.269	0.287	0.176	0.907
TR3	0.071	0.054	0.184	0.071	0.01	0.112	0.067	0.265	0.346	-0.023	0.221	0.202	0.157	0.851
TR4	0.043	-0.009	0.167	0.016	0.03	0.044	0.013	0.301	0.391	-0.054	0.26	0.243	0.133	0.877
TR5	-0.014	-0.055	0.088	0.019	0.022	0.017	-0.006	0.29	0.358	-0.091	0.243	0.264	0.089	0.893

Source: Author's Own Work (2025)

Appendix 5. Variance Inflation Factor Values

Table 7
Variance Inflation Factor Values

Item	VIF	Item	VIF
ALT1	2.955	PSR2	2.542
ALT2	2.248	PSR3	2.156
ALT3	2.216	PSR3	2.467
ALT4	2.169	PSR5	1.86
ALT5	3.228	PU1	3.491
ATT1	2.529	PU2	4.524
ATT2	2.174	PU3	3.151
ATT3	1.959	PU4	2.687
ATT4	2.648	PVR1	2.573
ATT5	2.514	PVR1	3.068
EMP1	2.075	PVR2	2.449
EMP2	1.681	PVR2	2.773
EMP3	2.41	PVR3	3.536
EMP4	2.244	PVR3	3.917
EMP5	1.896	PVR4	4.01
EOU1	2.768	PVR4	4.437
EOU2	2.768	PVR5	3.631
EOU3	3.316	PVR5	4.036
EOU5	2.354	SCR1	2.313
INT1	4.957	SCR1	2.488
INT2	3.414	SCR2	2.032
INT3	3.118	SCR2	2.29
INT4	3.014	SCR3	3.27
INT5	3.427	SCR3	2.734
LR1	2.905	SCR4	2.449
LR2	2.665	SCR5	1.577
LR3	3.223	SN1	2.589
LR4	2.961	SN2	3.561
LR5	2.986	SN3	4.263
PBC1	2.736	SN4	3.512
PBC2	3.983	SN5	3.062
PBC3	3.306	TR1	2.509
PBC4	2.568	TR2	3.591
PBC5	1.78	TR3	3.546
PSR1	1.931	TR4	3.632
PSR1	2.473	TR5	3.228
PSR2	2.63		

Source: Author's own work (2025)