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Exploring the Potential of Blockchain Technology in Digital Tax Administration to Enhance Tax Compliance

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ABSTRACT

This research seeks to enhance the technology acceptance model (TAM) by examining cognitive belief factors, specifically the influence of perceived usefulness and perceived ease of use, on taxpayers' intentions to utilize blockchain technology. This investigation explores both the direct and indirect effects of perceived enjoyment. This research also examined the impact of behaviour, specifically the trust factor, on perceived usefulness and perceived ease of use. We extended the TAM by assessing the mediating influences of the perceived enjoyment factor. The research employs a survey methodology. We collected data from 213 individual taxpayers. However, we were only able to process the data of 155 respondents. Questionnaires serve as a valuable tool for gathering data through Google Forms. We analysed the data using PLS-SEM. The research findings indicate that there is a form of mediation where the perceived usefulness of blockchain technology has a notable impact on taxpayers' intentions to use it, either directly or through the perceived enjoyment it brings. Perceived enjoyment also mediates the influence of perceived ease of use on taxpayers' intentions to use blockchain. Moreover, taxpayer trust has effectively influenced taxpayers' perceptions that technology is user-friendly and advantageous. To improve the level of service provided to taxpayers, tax authorities must leverage the advancements of the information technology era. The research findings make a valuable contribution to the tax authorities' readiness to adopt a blockchain-based tax administration system. The results highlight the significance of the authority's efforts to enhance taxpayers' intrinsic motivation when using tax information technology. Creating a user-friendly and enjoyable experience that brings joy, excitement, and comfort can achieve this.

Keywords: Perceived enjoyment; blockchain technology, perceived usefulness; perceived ease of use; intention to use.

INTRODUCTION

The emergence of new technology often sparks investigative efforts as researchers seek to understand the motivations behind users' adoption of these technological advancements. In the current decade, the tax authority has been actively working on enhancing the tax system to improve the database and transparency. As part of their efforts, they have incorporated blockchain technology. According to [52], tax fraud can be easily committed by taxpayers when tax administration is poorly managed and data transparency is lacking. Conventional methods of detecting tax fraud have become increasingly unreliable. The OECD report suggests that we can leverage technology's advanced capabilities to predict and prevent non-compliance [53]. Blockchain technology can be suggested as a potential solution for detecting tax fraud. In response to these conditions, the tax authority is working on the development of a modernized tax administration system (PSIAP) that is integrated, user-friendly, dependable, and precise, utilizing blockchain tech–nology [64], [65]. The development of this system aims to improve the services offered to taxpayers.

Implementing information technology can be a challenging task for both the technology provider and the user. According to the TAM, cognitive factors determine the technical evaluation of information technology implementation from the taxpayer's perspective. Prior studies in the field of information technology primarily concentrated on examining the technical aspects of the technology itself, utilizing the TAM to explore users' responses to information [3, 7, 20, 35, 54]. These studies have demonstrated the strong predictive power of two

TAM dimensions: perceived usefulness and perceived ease of use. Research demonstrates that these dimensions significantly influence the adoption of innovative technologies like e-commerce and online shopping. Nevertheless, while the TAM-based acceptance model has demonstrated its effectiveness in predicting technology usage intentions across different scenarios, there is a need to enhance the TAM by exploring additional factors that impact taxpayers' acceptance of new information technology. This is crucial in order to further advance technology adoption. Experts believe that research in this field entails complex decision-making processes, thereby requiring additional exploration of user responses [21], [24].

Psychological factor approaches, such as individual intrinsic motivation and self-leadership, play a significant role in skill development within a technological context [34]. Currently, it is becoming more and more crucial to consider the role of intrinsic motivation factors when studying user behavior from a psychological perspective. Researchers often consult [14]'s research to evaluate the impact of intrinsic motivation on technology intention. This research has demonstrated that the level of enjoyment a person experiences has a significant impact on their willingness to use information technology. Perceived enjoyment can evoke strong emotions in individuals, leading to a sense of pleasure when using new information technology [4, 9, 41, 48]. Therefore, this research integrated perceived enjoyment into the development of the TAM acceptance model. This research aims to explore the impact of perceived enjoyment on the behavior of technology users, going beyond the traditional focus on perceived benefits and performance outcomes.

Users often face uncertainty when dealing with new information technologies. According to [24], tax authorities consider the adoption of new technology to be a process that involves intricate decision-making. Therefore, it is necessary to conduct research in order to understand how users will respond to these technological changes. In their research, [72] highlighted the suboptimal efficacy of tax information technology in boosting state revenues. They attributed this issue to non-technical factors, specifically the lack of taxpayer trust in the government. However, the credibility of the organizer or technology provider may not be immediately trusted by users due to concerns about the vulnerability of personal data [18]. In addition, Blockchain technology functions as a decentralized database that is utilized across the network for the purpose of recording and validating transactions. Consequently, it presents potential challenges, such as uncertainty and high risks that users may encounter. Authorities who effectively demonstrate the usefulness and performance-enhancing capabilities of an information technology significantly influence the trust of technology users, as argued by [37]. In addition to that, the effectiveness and reliability of the technology in achieving the desired goals are worth considering.

This research builds on the existing background by adding cognitive elements to the technology acceptance model, with a specific focus on the trust factor. In his research, [36] introduced a trust construct that showed a significant correlation with individuals' inclination to utilize blockchain technology. According to [79], the trust factor calculation can be a valuable tool for mitigating risks associated with the use of blockchain technology. In their research, [75] highlighted the crucial role of trust in the interaction between providers and users of information technology. Without trust, achieving intentions and gaining acceptance is unlikely. Trust can be established through indicators of perceived advantages derived from utilizing information technology, as demonstrated by positive outcomes from previous engagements [75]. Information technology research primarily examines the impact of trust on intentions. For instance, researchers [58] and [29] conducted research on trust in the intention to use online transactions or e-commerce. This research aims to examine the impact of trust on two dimensions of TAM: perceived usefulness and perceived ease of use. It will be supported by a conceptual framework that emphasizes the importance of trust in government information managers and other organizations involved. The goal is to understand how trust influences individuals' decisions to adopt new electronic government services, taking into account the potential benefits and risks [31].

Previous studies have shown that TAM can be a reliable model for understanding technology acceptance. However, it is important to note that TAM primarily offers general insights into user intentions and behavior when it comes to adopting information technology systems. However, TAM also includes technical aspects, as a person's behavioral factors can influence their acceptance of technology. In their research, [71] highlighted that the acceptance of a new technology is not always universal among all parties involved. Thus, within the realm of utilizing new technology, this research introduces various elements that may impact the inclination to adopt such technology. By incorporating trust and perceived enjoyment into the TAM model, the level of generalization of the model is significantly enhanced. The model incorporates perceived usefulness and ease of use, along with additional external variables like trust and perceived enjoyment. The aims of this research are as follows: The first aim of this research is to

investigate the influence of beliefs on perceived utility and ease of use. An additional aim is to examine the impact of perceived enjoyment as a mediator between perceived usefulness and perceived ease of use and intentions to use technology in order to forecast future adoption; and to ssess the influence of perceived enjoyment on the relationship between perceived usefulness and perceived ease of use and intentions to use technology in accordance with the TAM concept. This research, when viewed from an empirical perspective, proposes several scientific benefits. Firstly, augmenting the TAM with a behavioral dimension to elucidate the ways in which the variables examined in this research impact the intention to adopt blockchain infor–mation technology; specifically, by fostering trust in the technology's usability in relation to the perception of its ease and utility; Secondly, it is imperative for tax authorities to develop tax technology that not only accommodates taxpayers' desire for convenience and comfort when adopting new technologies, but also demonstrates the capability to persuade them of the providers' credi–bility in a manner that extends beyond the mere technical aspects of information technology usability and ease of implementation.

Literature Review

Blockchain Technology in Taxation

One consequence of the advent of the fourth industrial revolution—the advancement of digital information technology—is the emergence of block–chain technology. As an illustration, blockchain technology can be likened to an unrestricted ledger wherein every transaction is documented and any entity is authorized to establish connections, transmit, or validate transactions within it [28]. BT has the potential to enhance taxpayer compliance in the domain of taxation [19] due to its capability of facilitating the accessibility of decentralized and real-time taxpayer data from pertinent tax docu–mentation. This would reduce the time required for tax auditors to conduct assessments of taxpayer compliance. Furthermore, the substantial volume of international transactions gives rise to the possibility of tax collection. Nevertheless, taxing a transaction that transcends the jurisdictional boundaries of a nation is a challenging endeavor.

Therefore, member states of the European Union (EU) view blockchain technology as a potentially effective tool in combating tax evasion, especially in the EU VAT system, which is complex due to varying tax rates and regulations. Taxpayers may utilize blockchain technology to electronically submit invoices for inclusion in a nation's tax reporting system. Once verified, state auditors and tax administrations will have access to the invoice through a blockchain-based network [53]. In addition to automating VAT payments, such a system would generate a transaction log that EU authorities could readily peruse in the event that they suspect fraud or an error. The incorporation of blockchain technology in Argentina was accomplished through the establishment of a single Tax Registry, which facilitates the monitoring of the financial transactions of taxpayers. Similarly, Finland employs blockchain technology in conjunction with banks to monitor real estate transactions [16].

People view blockchain, a developing tech–nology, as capable of preventing financial sector misconduct. The blockchain system considers exter–nal parties as network participants, which explains the reduction of collusion and fraud in the accounting industry [1]. This is due to the fact that unauthorized access to the blockchain system by a single entity becomes progressively more difficult. Researchers [33, 26] classify blockchain as an accounting technology. Accountants are relieved from the burden of reconciliation endeavors among parties involved in transactions when a distributed and transparent ledger is utilized. Moreover, the existence of blockchain, according to [33], will increase the obligation of accountants to concentrate on data interpretation.

Technology Acceptance Model (TAM)

In general, the TAM model is utilized to evaluate the efficacy and productivity of novel technology. The concept proposed by [13] elucidates that TAM evaluates two information technology-related factors: perceived usefulness and perceived ease of use. It is believed that these two constructs influence the behavior of individuals with regard to their intentions to utilize new information tech–nology. Information systems research is the origin of the technology acceptance model, which is exten–sively applied to explain and forecast the factors that motivate organizations and individual users to adopt a specific technology. As a catalyst for the adoption of novel technologies, TAM has evolved into a widely applied and modified analytic frame–work [2, 49, 60]. This research employs a conceptual framework based on flow theory, except for TAM. It can be challenging to locate technological research that incorporates flow theory in certain studies. The flow theory serves as the foundation for this research's application of perceived enjoyment factors. Csikszentmihalyi first proposed the flow theory in 1975, as discussed in [69], with the aim of understanding the intrinsic value of enjoyment and its manifestation in unique experiences. People's

emotions regarding an activity are characterized by enjoyment [81]. From the perspective of flow theory, the primary determinant of an individual's experience interacting with technology is their level of enjoyment.

Hypotheses Development

Trust

Trust has a positive impact on perceived usefulness. Particularly when financial information and the exchange of personal data are involved, users must establish a foundation of trust in the system prior to conducting any activity on it. According to [63], a reliable information system will boost user confidence. Numerous studies of e-commerce and online banking generally accept that trust influences user behavior regarding technology adoption. Customers' confidence in m-banking users is based on privacy concerns, as mobile devices store confidential and individual information. Blockchain-based tax information technology, on the other hand, entails a greater degree of personally identifiable data within the scope of this research. In the course of conducting business, investing, or engaging in online markets, taxpayers will grant the state access to their personal information and economic and financial transactions via third-party terminals. Trust influences the intention to utilize blockchain technology, according to the findings of [38] research in a broader sense. Acceptance of novel technologies is construed as trust.

Adverse attitudes toward technology usage are a consequence of diminished levels of trust. Regarding the adoption and utilization of blockchain technology by taxpayers, this research will examine the impact of trust. The research of [55], which posits that individuals' readiness to learn to experience the convenience and benefits of information technology providers inspires trust in such providers, forms the foundation of this research. The research conducted by [71] presents varying findings with respect to the impact of trust on the perceived usefulness and ease of use. According to this research, perceived usefulness is substantially impacted by trust, whereas perceived ease of use is barely impacted. With the aforementioned context in mind, the research hypothesis posits that:that:

H_{1a}: Trust influences perceived ease of use.

H_{1b}: Trust influences perceived usefulness.

Perceived Ease of Use and Perceived Usefulness and Perceived Enjoyment

Precise delight derived from utilizing a technology is referred to as perceived enjoyment. According to [73], hedonism motivation refers to the gratification and delight an individual derives from utilizing technology. The intentions of individuals to implement and utilize new technology are influenced by feelings of joy, according to research by [73]. In contrast, [77] explored individuals' intentions to utilize branded sports applications with a broader perspective by incorporating perceived delight. The research conducted by [39] more precisely identified perceived ease of use as a significant factor influencing the level of enjoyment derived from mobile technology usage. Similarly, [50] integrates perceived enjoyment with the TAM concept. Perceived usefulness and perceived ease of use are the primary determinants of students' satisfaction with online learning, according to the findings of this research. [12] proposes, through a conceptual framework, that individuals are more likely to find entertaining information technology that is also simpler to operate. User satisfaction will increase proportionally to the simplicity of use of the system and the magnitude of the technology's benefits. In light of the previously mentioned context, we propose the following research hypothesis:

H_{2a}: Perceived ease of use influences perceived enjoyment.

H_{2b}: Perceived usefulness influences perceived enjoyment.

Perceived Ease of Use and Perceived Usefulness and Influences Intention to Use Blockchain Technology

Perceived usefulness and perceived ease of use, the two primary indicators of TAM, are significant determinants in the acceptance of a novel technology. Perceived ease of use is associated with the cognitive processes an individual employs when attempting to comprehend a novel technology. A user will derive enjoyment from utilizing new technology, according to the TAM [13] concept. [44] further underscored the significance of two critical variables in shaping society's acceptance of technology: perceived ease of use and perceived usefulness.

Researchers [25, 61, 51] found that the two TAM variables, perceived ease of use and perceived usefulness, significantly drove MSMEs' acceptance of blockchain technology. Thus, TAM's explanation and prediction that increasing acceptance leads to increased use have accumulated substantial empirical support. As part of this research, we will evaluate the acceptability of new technology within a blockchain-based tax administration system that integrates taxpayer data in a chain. The advantages of integrating blockchain technology become readily apparent to taxpayers, prompting them to prioritize

functionalities that enhance usability. Acceptance of a technology is determined, according to [23], by the principles of enhancing the efficiency and effectiveness of the organization that are embedded within the technology. Given the preceding context, the research hypothesis can be expressed as follows:

H_{3a}: Perceived ease of use influences intention to use blockchain technology.

H_{3b}: Perceived usefulness influences intention to use blockchain technology.

Perceived Enjoyment and Intention to Use Blockchain Technology

The factor of perceived enjoyment in relation to the enjoyment derived from utilizing technology has been examined in numerous studies, including those by [13, 14,74]. Additional studies have investigated the impact of hedonism or delight on individuals' intentions to utilize mobile commerce, as demonstrated by [43]. The impact of perceived enjoyment on intentions to use e-commerce was examined by [27, 62], who investigated the relationship between perceived enjoyment and intentions to use e-payment. Emotions of contentment, delight, and pleasure can be utilized to quantify the perceived enjoyment factor. The intrinsic motivation that drives perceived enjoyment is a reflection of the pleasure and delight derived from utilizing the system. The concept of perceived enjoyment pertains to a favorable emotional response towards a system, which serves to mitigate opposition to novel technological advancements [56]. Feelings of comfort are associated with perceived enjoyment, according to [8]. A simpler system may provide users with greater enjoyment and make the completion of a given task more enjoyable than a more complex system.

In their research, [30] highlighted the significant role of perceived enjoyment in shaping attitudes and strengths, surpassing even the perceived usefulness factor. People who enjoy using information technology tend to feel satisfied and are likely to continue using it. The level of enjoyment individuals perceive greatly influences sharing information through information technology applications like Facebook [47]. Thus, this research investigates the degree to which users of blockchain technology perceive its use as an enjoyable tool. Based on the provided information, the research proposes the following hypothesis:

H_4: *Perceived enjoyment* influences the intention to use blockchain technology.

Perceived Enjoyment as the Mediating Variable

Users can experience a sense of enjoyment through direct interaction with the factors they are using [10]. Enjoyment is a feeling that ignites a particular sense of accomplishment. In their research, [41] explores the impact of reading enjoyment on the connection between teacher support and the improvement of student reading literacy. The findings of this research demonstrate that students have a positive perception of teacher support, leading to a greater enjoyment of reading and ultimately improving their literacy. Similarly, research conducted by [17] discovered that the perceived enjoyment of online shopping played a role in connecting the shopping environment with individuals' purchase intentions. This research builds upon the modelling approach explored by [40], which suggests that the experience of enjoyment acts as a mediator between the perceived use and perceived usefulness of virtual reality technology.

In the context of this research, the choice of the perceived enjoyment variable is connected to the self-assessment tax collection system, where taxpayers are responsible for calculating, paying, and reporting their taxes. We will gauge the user's experience with blockchain technology in meeting tax obligations based on their level of satisfaction. The empirical evidence suggests that taxpayers' perception of the ease of use and usefulness of blockchain technology has a direct impact on their enjoyment of it, which in turn affects their intention to use it. Thus, this research examines the degree to which individuals find personal enjoyment in using a technology, in addition to any practical advantages it may offer [62]. In research conducted by [80], it was found that the perceived enjoyment of shopping has a significant impact on the intention to shop, which is further enhanced by the role of information. The research conducted by [62] demonstrated that perceived enjoyment plays a crucial role in promoting the adoption of new technology, particularly among individuals with a strong passion for innovation and a keen interest in the field of information technology. Based on the provided information, the research proposes the following hypothesis:

H_{5a}: Perceived enjoyment mediates the relationship between perceived usefulness and intention to use blockchain technology.

H_{5b}: Perceived enjoyment mediates the relationship between perceived ease of use and intention to use blockchain technology.

RESEARCH METHOD

Respondents and Procedure

This research utilizes Structural Equation Modelling (SEM) with the Partial Least Square (PLS)-SEM approach for data analysis. This

approach is particularly well-suited for situations where the data is non-normal, the sample size is small, and it can be applied across various data scales. The SEM model is utilized to analyze the validity and reliability of data through the outer model and inner model, enabling the prediction of causal relationships. Table 1 presents operational definitions and indicators for measuring variables.

We obtained the sample for this research using a purposive sampling technique. We distributed questionnaires to individuals who met the criteria of being a taxpayer with a Taxpayer Identification Number (NPWP), irrespective of their employment status (employee, freelance worker, or business owner). Unfortunately, we could only process 155 of the 213 questionnaires we collected. Men and women participated in the research almost equally, with 58% being men and 42% being women. Every participant possesses an NPWP and an under–standing of blockchain technology. Approximately 32.26% of the respondents live in East Java, with the remaining participants residing in various other provinces, such as DKI Jakarta, West Java, and Central Java. Several provinces, including Banten, Sumatra, Lampung, and Kalimantan, host the remaining participants. Most of the respondents held positions as entrepreneurs, private workers, and accountants. 41% of the respondents were between the ages of 18 and 24. The range is 25–30 years. 24.5 The respondents who are 25–30 years old make up 24.52%, those who are 31–35 years old make up 21.29%, those who are 36–40 years old make up 6.45%, and the remaining respondents are over 55 years old. Google Forms distributed an online questionnaire for data collection. This research also uses paid online survey sites to assist in data collection. We designed the questionnaire with a Likert scale, allowing answer values to range from 1 to 5. The scale provides options for strongly disagree, disagree, neutral, agree, and strongly agree responses.

RESULTS AND DISCUSSION

Model Measurement—Outer Model Analysis

The outer model serves as a means of evaluating the consistency of the research instru–ment in measuring the concept. We assessed the outer model using various statistical measures to ensure the reliability and validity of the constructs [35]. The research demonstrates convergent validity through the observed loading factors. According to Table 1, the loading factor values for each construct indicator are $\geqslant$0.70. This indicates that all constructs in the estimated model are highly reliable and meet the reliability criteria. The reliability assessment

Tabel 1. Reliability and Convergent Validity

Variables, Definition & Indicators	Items (Loading Factor)
Perceived Enjoyment Intrinsic motivation posits that engagement with technology is pleasurable, irrespective of the user's proficiency in utilizing blockchain technology. Perceived enjoyment is measured by indicators of enjoyment and satisfaction [6]	**Perceived Enjoyment (PE)** CR= 0.912; AVE=0.777; CA=0.856 PE1 It is enjoyable to use a single incorporated application built on blockchain technology. (0.874) PE2 Utilizing a blockchain-based integrated website or application was enjoyable. (0.885) PE3 When utilizing a website or application that is built upon blockchain technology, I am filled with enthusiasm. (0.885)
Level of confidence that the service provider possesses the necessary knowledge to carry out tasks with efficiency and dependability. Blockchain technology is trustworthy, reliable [15]	**Trust (T)** CR= 0.914; AVE=0.727; CA=0.875 T1. Blockchain technology promotes data transparency. (0.821) T3 My data is entrusted to an integrated application that utilizes blockchain technology for storage. (0.830) T4 Integrated applications utilizing blockchain technology facilitate the storage of transaction information. (0.879) T5 Integrated applications based on blockchain technology are reliable. (0.879)
A person's intention to use a technology. Behavioral intention is measured using indicators of interest in using technology [15]	**Behavioral Intention (BI)** CR= 0.938; AVE=0.751; CA=0.917 BI1. When blockchain technology becomes available, I intend to use a website or service based on it. (0.860) BI4. As a tax system tool, I intend to use a blockchain-based website or application. (0.893) BI5. When blockchain-based websites or programs for taxation become accessible, I intend to take advantage of them. (0.847) BI6. I intend to continue using blockchain-based websites or applications for taxation. 0.873) BI7. I intend to suggest to third parties websites or applications based on blockchain technology for taxation. (0.858)
Perceived Usefulness refers to an individual's belief in the degree to which employing a specific system will enhance their work performance. Perceived usefulness is measured by indicators that blockchain technology improves performance, effectiveness, makes it easier to carry out tax obligations, and saves time [15]	**Perceived Usefulness (PU)** CR= 0.897; AVE=0.686; CA=0.847 PU1 The use of blockchain technology will make registration, reporting, deposits, and payments easier. (0.789) PU3 The use of blockchain technology in the tax system improves efficiency. (0.830) PU4 The use of blockchain technology in the taxes system shortens the taxing process. (0.840) PU5 The adoption of blockchain technology in the tax system is beneficial and enhances tax performance. (0.852)
An individual's level of belief in the seamless utilization of a specific system. Perceived ease of use is measured by indicators that blockchain technology is easy to understand, easy to remember, and easy to use [15]	**Perceived Ease of Use (PEoU)** CR= 0.923; AVE=0.750; CA=0.888 PEoU2 Blockchain technology is simple to employ for the purpose of fulfilling tax responsibilities. (0.888) PEoU3 Using blockchain technology to fulfill tax responsibilities can help you remember how to utilize it. (0.894) PEoU4 An integrated website or application based on blockchain technology decreases the amount of time and effort required. (0.823) PEoU6 Blockchain-based integrated websites or applications are simple and straightforward. (0.857)

can be further enhanced by employing Cronbach's alpha, which classifies a value as adequate if $\alpha \geq 0.3$ and as good if $\alpha \geq 0.5$. The subsequent output of Cronbach's alpha is also presented in Table 1.

The ultimate assessment of the model is its composite reliability. An increase in value signifies a superior degree of dependability. According to [35], an optimal composite reliability value falls within the range of 0.70 to 0.95. In [22], we assess the reliability test, assuming a value greater than 0.7, to validate the instrument's ability to measure the construct with accuracy, consistency, and precision. Table 3 presents the findings related to this research's composite reliability. Convergent validity is an additional assessment that employs the Average Variance Extracted (AVE) value. The AVE value denotes the extent to which a latent construct can encompass a wide variety or variance in manifest variables. Table 1 details the AVE values of the aforementioned companies. An acceptable AVE is generally defined as 0.50 or greater.

Elevated levels signify that the construct, on average, accounts for a minimum of 50 percent of the variance in the indicator. As demonstrated in Table 1, the variables utilized in this investigation have exceeded the thresholds for convergent validity and reliability testing, thus satisfying the conver–gent validity and reliability requirements.

The discriminant validity value in this research is sufficient, as indicated in Table 2. Table 2 reveals that the cross loading value for each construct surpasses that of the other constructs. Discriminant validity focuses on measuring distinct latent variables that should not exhibit strong correlations. Esta–blishing discriminant validity requires taking cross loading into account. This means that the other construct should have a lower loading compared to the main construct. Additionally, the square root of AVE should be higher than the correlation between latent variables in the same column [67].

Table 2. Discriminant Validity

Variables	PE	Trust	Intent	PEU	PeOU
PE	0.881	0.729	0.776	0.704	0.702
Trust	0.729	0.853	0.809	0.776	0.709
Intent	0.776	0.809	0.866	0.791	0.797
PU	0.704	0.776	0.791	0.828	0.692
PEoU	0.702	0.709	0.797	0.692	0.866

Inner Model Result

The inner model is an important component of the PLS method as it helps to analyze the impact of the independent variable on the dependent variable. The p-value, when less than 0.05, indicates the acceptance of the hypothesis and its significance [46]. Inner model testing involves the use of Average Path Coefficient (APC), Average R-Squared (ARS), and Average Block VIF (AVIF). According to [76], the p-value for APC and ARS is less than 0.05, and the AVIF is less than 5. According to the findings in Table 3, it is evident that the APC and ARS in this research have a p-value <0.05 and AVIF <5. Therefore, it can be inferred that the inner model has successfully fulfilled the criteria.

R-Squared ranges from 0 to 1, and a higher value indicates a better fit for the model. The findings of this research reveal a moderate impact of trust on perceived usefulness (R2 = 0.610) and a significant impact of trust on perceived ease of use (R2 = 0.524). Furthermore, the perceived usefulness and perceived ease of use have a moderate impact on the perceived enjoyment, with R2 = 0.588. Ultimately, the various research variables have a significant impact on taxpayers' inclination to utilize information technology, as evidenced by a substantial value of R2 = 0.780.

Hypotheses Testing

Figure 1 displays the β and *p* values, which are used to assess the significance level of the hypo–thesis. Table 3 presents the research findings regarding the direct impact of variables, such as trust, on Perceived Ease of Use and Perceived Usefulness. The impact of perceived ease of use and perceived usefulness on behavioral intention is examined. Table 3 further illustrates the role of perceived enjoyment in mediating the connection between perceived ease of use and perceived use–fulness, ultimately impacting behavioral intention.

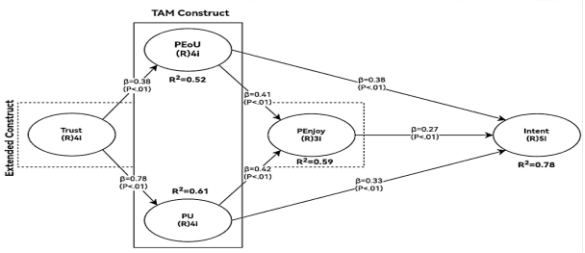

Figure 1. PLS Results of The Research Model Testing

Table 3. Inner Model Result

Hypo thesis	Relationship	Path Coefficient	*P* values	Decissions
	Main Model			
$H1_a$	Trust — PEoU	0.720	<0.001	Supported
$H1_b$	Trust — PU	0.780	<0.001	Supported
$H2_a$	PEoU—PEnjoy	0.410	<0.001	Supported
$H2_b$	PU—PEnjoy	0.420	<0.001	Supported
$H3_a$	PEoU— Intent	0.380	<0.001	Supported
$H3_b$	PU— Intent	0.330	<0.001	Supported
H4	PEnjoy—Intent	0.270	<0.001	Supported
	Mediating effect of perceived enjoyment			
$H5_a$	PU—PEnjoy—Intent	0.112	0.023	Supported
$H5_b$	PEoU—PEnjoy—Intention	0.110	0.025	Supported

Source: Table created by authors

Trust and Perceived Usefulness and Perceived Ease of Use

We accepted the hypothesis testing results for H1a and H1b. The trust variable has a significant positive impact on the perceived usefulness and perceived ease of use. There is strong evidence to support this, with a p value<0.001 and path coefficients of β = 0.780 and β = 0.720, respectively. When someone receives positive information about a new technological system, it can shape their beliefs and increase their desire to experience the ease of use and benefits. This research supports the perspective of [2], which asserts that trust significantly shapes users' perceptions of usefulness. Put simply, the level of perceived usefulness of an information system reflects users' trust in its capabilities and integrity. The findings of this research align with the viewpoint of [70] that trust has a direct and positive impact on perceived usefulness. Higher trust leads to greater perceived benefits. The earlier research by [15], which demonstrated that trust plays a crucial role in enhancing the perceived advantages of services, finds further support in these findings.

Researchers [15] found that trust significantly predicts technology acceptance. If the consumer cannot trust the service provider, they are unlikely to find any value in the service they receive. [59] also emphasize the crucial role of trust in fostering positive emotions and encouraging individuals to embrace information technology with ease and confidence. Trust plays a crucial role in fostering customers' emotional commitment toward a brand. This conviction shapes the eagerness to explore the practicality of utilizing blockchain technology. This finding aligns with the research conducted by [30], which suggests that trust in information system administrators can alleviate concerns about the security risks associated with personal data, there–by influencing perceived usefulness.

Perceived Usefulness and Perceived Ease of Use Toward Perceived Enjoyment

We accept Hypotheses H2a and H2b, finding that both perceived usefulness and perceived ease of use positively influence perceived enjoyment, with a p-value of less than 0.001. In this research, it was found that the impact of perceived usefulness (β=0.420) is stronger compared to the impact of perceived use (β=0.410). The level of pleasure someone derives from using a technology determines their perceived enjoyment. Users seek technology that enhances the relevance and informativeness of their experience while also providing comfort and minimizing effort. According to recent research by [29], the level of user satisfaction with new tech–nology is directly related to how easy it is to use. External factors, specifically perceived usefulness and perceived ease of use, which are the main components of TAM, typically influence the tax–payer's perception of enjoyment when using new technology.

The perceived usefulness and ease of use of a technology can generate a sense of excitement and positive emotions. Taxpayers' satisfaction largely stems from the convenience of utilizing information technology. The findings of this research align with [50] research, which suggests that the use of user-friendly online learning technology can enhance enjoyment. According to [12], the author emphasized the importance of systems and services in shaping an individual's perception of satisfaction.

Perceived Usefulness and Perceived Ease of Use Towards Behavioral Intention

The findings from the analysis of H3a and H3b hypotheses in Table 3 reveal that both perceived usefulness and perceived ease of use have a significant impact on intention to use information technology, with a p-value <0.001. However, it is worth noting that perceived usefulness has a slightly weaker influence, as indicated by the respective path coefficients β = 0.330 and β = 0.380. The results suggest that taxpayers primarily consider the perceived ease of use of information technology when deciding whether to use a technology, rather than its perceived usefulness. In line with previous studies, the findings of this research validate the two factors in the TAM concept as significant contributors to the intention to adopt new technology. The findings of this research support the conclusions of previous research conducted by [44, 25, 45, 61], which have established that perceived ease of use and perceived usefulness are significant and well-established determinants.

According to [32], individuals are more likely to adopt information technology if they perceive it as advantageous and capable of enhancing work efficiency. In research conducted by [78], it was found that individuals are more inclined to embrace information technology when it is user-friendly and effortless to navigate. In the context of this research, taxpayers can embrace the adoption of blockchain technology in the tax system. This system can enhance the efficiency of fulfilling tax obligations and offer convenience for various tax-related tasks, such as registration, reporting, depositing, and payment. It also saves time, simplifies processes, and is user-friendly. In previous tax administration technology, services to taxpayers were mostly carried

out manually and face-to-face, so it took a lot of time and money. Later, the integration of all taxpayer services in the new tax administration technology will reduce manual work, enhancing its effectiveness.

Perceived Enjoyment Towards Behavioral Intention

By adding the element of enjoyment that taxpayers experience when adopting blockchain technology, this research has extended the TAM. In general, the dimensions of TAM, including perceived usefulness, perceived ease of use, and perceived enjoyment, have a positive correlation with taxpayers' intentions to adopt blockchain technology. We have accepted the results of hypothesis testing H4. The variable of perceived enjoyment has a strong positive impact on behavioral intentions. This is supported by the p-value <0.001 and the path coefficient of β = 0.270. The level of satisfaction and delight experienced by taxpayers when using blockchain technology directly influences their willingness to adopt it for tax purposes. Various scholars [8, 26, 42, 68] have conducted previous research that aligns with the findings of this study. These studies have demonstrated the significant impact of user comfort in technology usage, particularly in relation to taxpayers' intentions to adopt blockchain technology. Previous research has also highlighted the importance of perceived enjoyment, which is associated with products that provide pleasurable experiences for users [28]. While the primary motivation for adopting blockchain technology remains focused on its user-friendly nature, this research suggests that the level of enjoyment experienced by taxpayers plays a significant role in their willingness to embrace it.

This indicates that taxpayers will experience satisfaction when utilizing new information technology in tax administration. The influence of perceived enjoyment on taxpayer intentions has been well-established. Specifically, when taxpayers find their activities using new information technology enjoyable, it affects their intentions. The variable indicators convey a feeling of pleasure and excitement, demonstrating the delight that comes from utilizing the system. Individual taxpayers experience a sense of satisfaction when they are able to effectively utilize information technology in tax administration and reap the benefits it offers. From the taxpayer's perspective, Blockchain technology is seen as a tool that brings joy and satisfaction through its integrated applications.

Mediation Effect of Perceived Enjoyment

The results of this research indicate that partial mediation is present. Specifically, the influence of perceived usefulness and perceived ease of use on the intention to use blockchain technology decreases but remains substantial after controlling for the mediating variable, perceived enjoyment. The mediation tests yielded results that evaluated both direct and indirect impacts. The results from the direct measurement indicate that the perceived usefulness factor significantly influenced the taxpayer's intention to use technology, with a p-value <0.001 and a β = 0.420. The research examined the relationship between perceived usefulness and the intention to use technology. The study revealed that perceived enjoyment acts as a mediator in this relationship. The statistical analysis showed a p-value of 0.023 and a β = 0.112, indicating that perceived usefulness has a significant influence on the intention to use technology when mediated by perceived enjoyment. Therefore, hypothesis H5a is supported. The research revealed that taxpayers' perception of enjoyment of blockchain technology acts as a mediator between their perception of ease of use and their propensity to use the technology. Fostering taxpayers' inherent drive is essential for cultivating satisfaction and promoting engagement between taxpayers and technology.

The results validate the conclusions of [40] that customers experience heightened intention when they see the technology as user-friendly and advantageous. The freshness and dependability of the presented material affect the level of satisfaction individuals experience when using blogs, as this research further validates the conclusions of [11]. This, in turn, influences their inclination to visit tourist places. The research by [29] elucidates the effectiveness of perceived enjoyment as a mediator. According to their findings, users experience excitement when they perceive a technology to be user-friendly and informative, which in turn enhances their intention to utilize it.

Additional findings from the mediation test indicate that the perceived ease of use has a direct impact on the intention to employ blockchain technology, as evidenced by a p-value of 0.025 and β = 0.110. When the perceived enjoyment factor was added, the model coefficient for the direct effect of perceived ease of use on intention went down and became statistically less important. We have confirmed the results of hypothesis testing H5b. This suggests that the perception of enjoyment acts as a mediator in the connection between the perception of ease of use and the intention to utilize technology. The ease of use of new technology has provided a pleasant experience that can increase taxpayers' intentions to use a blockchain-based tax system. This means that technology that frees taxpayers from difficulties and makes it easier to complete tax obligations influences creating experiences of comfort, joy, and pleasure so that it can increase

intentions to adopt new technology. The results of this research are consistent with [5], which states that a pleasant situation determines the success of using e-learning. The more enjoyable the e-learning platform is for them, the more likely it is that they will increase their intention to use it.

CONCLUSION

All the variables in this research closely relate to the use of blockchain technology in the tax information system. Trust is one predictor variable that significantly influences the ease of use and usefulness of new technology. The characteristics of perceived ease of use and perceived usefulness in blockchain-based tax technology immediately possess the capability to elicit taxpayers' sensations of delight. This research can also demonstrate that taxpayers' confidence in information service providers can enhance their inclination to experience the convenience and efficacy of this technology. Another finding of this research is that perceived enjoyment can act as a mediator between the influence of perceived usefulness and taxpayer intentions. The utilization of blockchain-based tax information technology will elicit a sense of utility, leading to enhanced sentiments of satisfaction and content–ment, thereby fostering a greater inclination to adopt blockchain technology. However, the influence of perceived usefulness on intention remains stronger than that of perceived usefulness on intention, which is mediated by the element of felt enjoyment. Research has shown that sentiments of comfort and pleasure significantly influence tax–payers' inclination to adopt new tax information technology based on blockchain. The small sample size and lack of participant diversity limit the research. While the available data is adequate for analysis, it is advisable to augment the number of participants in this research for future research. Additionally, it is necessary to verify the respon–dents' understanding of blockchain technology through research inquiries.

This research enhances the development of a theoretical framework for modeling intentions to utilize new technology. It goes beyond the technical elements emphasized by the TAM idea and includes intrinsic incentive factors, specifically the enhance–ment of taxpayers' pleasure. In the end, this research establishes a robust theoretical framework by showing how perceived enjoyment—correlated with elements such as ease of use and usefulness—mediates the relationship between technological intention and blockchain adoption. We must creatively construct the theoretical framework for the successful use of new technology by enhancing the cognitive elements in the TAM framework and utilizing effective user emotions as a mediating component. This research also offers practical and strategic insights for tax authorities on the significance of establishing trust as a fundamental basis for implementing PSIAP, which is the primary tax administration system aimed at streamlining tax-related procedures. When building and im–proving PSIAP, tax authorities must meet both technical and non-technical requirements. This ensures that the system is user-friendly, highly functional, and capable of generating positive user experiences; hence, it promotes increased usage intentions.

We recommend conducting further research to determine the direct correlation between individual personality traits and tax evasion intentions. This study also relied on students' intentions to evade taxes and not their actual tax evasion behavior, although students' current views are relevant to academic institutions, taxes, and the state, their actual tax evasion behavior may differ in the future. Therefore, interpretation of the findings of this study should be seen in the context of these limi–tations

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