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Bliss effect of taxpayers in adopting blockchain technology

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Abstract

Research aims: This study aimed to investigate the intention to adopt blockchain technology (BT) from the taxpayer's perspective.

Design/Methodology/Approach: The data were collected from an online survey with 135 effective respondents and analyzed using Partial Least Square (PLS) for model and hypothesis testing.

Research findings: It was found that perceived enjoyment could mediate the effect of autonomy on intentions to use blockchain technology in tax administration. However, it has been proven that autonomy had a greater direct effect than the indirect effect of perceived enjoyment as a mediation.

Theoretical contribution/Originality: This research discusses how people react to using blockchain technology in the tax administration system. The use of blockchain technology will later have an impact on the transparency and effectiveness of taxation. Practically, from within the taxpayer arises a desire to carry out his obligations using blockchain technology. Blockchain technology is essential to facilitate and increase transparency in the effectiveness of tax administration systems.

Practitioner/Policy implication: The findings of this study offer a practical guide for tax authorities as regulators in designing the BT implementation in the tax administration system that will increase transparency and efficiency.

Research limitation/Implication: This study has several limitations. First, the model and hypothesis in this study have never been researched as one model. Second, some respondents only have a hazy understanding of how the blockchain works. Hence, future research may be able to broaden the research by investigating the outcomes of blockchain technology adoption.

Keywords: Adoption of Blockchain Technology; Tax; Self-Determination Theory; Technology Acceptance Model; Autonomy; Perceived Enjoyment; Behavioral Intention

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Introduction

The presence of innovative technology always boosts research efforts to discover the motivation that drives users to use the technology. Furthermore, understanding that human nature can be expressed actively, passively, even constructively, or slowly becomes a strong foundation for understanding the motivation behind an action. In general, based on Theory Acceptance Model (TAM), the effective implementation of any information technology or information system depends on user acceptance (Florenthal, 2019; Rakhmawati et al., 2019; Rifat et al., 2019). However, several studies explain TAM's weaknesses: it does not provide adequate

insight into individual perspectives on the new system and ignores the relationship between use and behavioral intention (Chao, 2019; Tsai et al., 2018). On the other hand, the intrinsic approach is still not widely used in technological studies of individual behavior. Meanwhile, employees' failure to comply with the information security policy determines the success of information technology implemented in an organization (Gangire et al., 2019). Martela et al. (2021) used the Self-Determination Theory (SDT) approach to understanding a person's intrinsic motivation that is responsive to regulations to create an autonomous condition where a person does these tasks consciously, wholeheartedly, and joyfully. Ryan and Deci (2000), as the initiator of SDT theory, focused on the search for motivation based on one's personality associated with that person's basic needs. SDT starts with the assumption that the three primary psychological needs are autonomy (which emphasizes personal support to do something), competence (the need to feel effective in interacting with their surroundings), and relatedness (the need to feel meaningfully connected with others). The added value of SDT theory is that it differentiates between autonomous and controlled motivation, indicating the continuation of a person's behavior, whether to change or comply. This controlled motivation is influenced by demands, pressures, and obligations (Ryan et al., 2021). In this case, taxpayers who comply with tax provisions due to pressure indicate that tax compliance is not voluntary and is driven by extrinsic motivation rather than intrinsic motivation.

In taxation, taxpayer trust and compliance will be decreased when the government uses external regulations with a heavy penalty and strict supervision approach (Hofmann et al., 2017). Compliance under strict regulatory control relies more on extrinsic factors leading to controlled motivation. Controlled motivation means people engage in certain actions because they feel compelled and pressured to do so. In the SDT concept, when the taxpayer's autonomy goes well, the taxpayer will carry out tax provisions voluntarily, free from pressure. The explanation above is confirmed by (Widyarini, 2021), who proves that there is an influence between autonomy and competence on the behavioral intention to adopt Self-Service Technology with the support of the availability of information quality, system quality, and service quality. Likewise, Fathali and Okada (2016) stated that the SDT dimension affects understanding students' basic psychological needs in choosing to continue their intention to learn language independently using technology.

Moreover, this study is interesting since it investigates taxpayers' motivation if the tax authorities implement BT. Blockchain technology is one of the results of the development of digital information technology, which is part of the presence of the industrial revolution 4.0. Blockchain technology was created as a massive data repository that categorizes data based on its type and characteristics. BT is similar to an open ledger where all transactions are recorded, and anyone can connect, send, or authenticate transactions (Heidari et al., 2017). Following the simple description of blockchain technology above, tax authorities can use blockchain technology to improve taxpayer compliance (Fatz et al., 2019). Furthermore, Fatz et al. (2019) explained that the benefit of blockchain technology for tax authorities is the availability of decentralized and real-time taxpayer data from relevant tax documentation, allowing tax examiners to test taxpayer compliance quickly.

The taxpayer compliance level in carrying out their tax obligations will be greatly influenced by taxpayers' trust in tax officers. According to (Mukoffi et al., 2022), tax justice significantly impacts taxpayer compliance, as taxpayers will feel more equitable regional development and receive more equitable services from tax officials when paying taxes. In this regard, corruption is one of the forms of injustice felt by society; according to Law Number 31 of 1999, as amended by Law Number 20 of 2001, corruption is defined as anyone who unlawfully commits an act of enriching himself or another person or a corporation that can harm state finances or the state economy. In Indonesia, corruption is endemic, which has risen to the top of the corruption pyramid compared to other countries (Sabani, 2021). Related to that, a manual process in the tax administration system results in tax fraud acts that reduce the amount of income and the mode of reporting overpaid taxes. As a result, the OECD explains in its report that technology is a solution that can be proposed to anticipate non-compliance that utilizes the advantage of technology (OECD, 2017). Hence, blockchain technology is one of the technologies that can be proposed to anticipate tax fraud. The effects of adopting blockchain technology for taxpayers' compliance will bring significant differences.

Many studies have discussed the adoption of blockchain technology, but no studies on taxpayers' perspectives as parties carrying out tax compliance in adopting blockchain technology have been undertaken thus far. Therefore, in this study, the authors discussed the desire of taxpayers, which arise from within themselves, to adopt blockchain technology by seeing all the pros of using blockchain technology. Apart from that, the authors also discussed whether, in adopting blockchain technology, taxpayers need to feel the "bliss" before wanting to adopt blockchain technology. This study's findings would show taxpayers' reactions or how much they wanted to adopt blockchain technology. Additionally, a large portion of the study has focused solely on the definition and application of blockchain technology in various nations (Yayman, 2021). Setyowati et al. (2020) also discussed how blockchain technology could be applied to Indonesia's VAT system, mainly to e-invoices, where the system is relatively new. In addition, Hartono and Budiarsih (2022) discussed applying blockchain technology to crypto asset transactions. Therefore, many studies on blockchain technology in Indonesia are concerned with its implementation and effectiveness rather than analyzing taxpayer revenue from a motivational perspective. For this reason, this research is aimed at filling this gap.

Furthermore, information technology reform is necessary for regulators, such as the Directorate General of Taxes (DGT). The tax regulation reform package, with the presence of the Tax Harmonization Law Number 7 of 2021, needs to be supported with administrative aspects in the form of information technology support. In Indonesia, information technology has been implemented sustainably in tax administration. For example, blockchain technology is used for fulfilling VAT obligations by uploading digital invoices into a country's tax reporting system. The invoice will be verified and inputted into a blockchain-based network that can be accessed by the tax administration and state auditors who need it. Such a system allows VAT payments to be automated and creates a transaction history that authorities can easily access.

Tax authorities, through this research, can understand whether taxpayers use information technology such as BT based on personal will by involving internal considerations that tax information technology increases efficiency and effectiveness in fulfilling tax obligations. Besides, a person's behavior response will be determined based on desires. Hence, this study directly examined the autonomic factor as a component of intrinsic motivation based on SDT on the intention to use BT. The study was motivated by the statement (Ryan & Deci, 2000) that even while a set of rules limits a person, there is a strong reason behind its implementation so that a person feels or perceives enjoyment in carrying out these provisions. This study was also inspired by Lee et al. (2015), examining how a person's motivational determinants, such as autonomy, indirectly affect intentions through the mediating role of perceived enjoyment (PE). PE is an intrinsic motivation determining how far a new information technology can provide pleasure (Chao, 2019; Luo et al., 2021). Previous research has confirmed the effect of perceived enjoyment on behavior intention to use information systems (Atombo et al., 2017; Tsai et al., 2018). According to a previous study, perceived enjoyment is an important predictor of behavioral intention. Consequently, a person intends to act when the action is pleasurable, even risky.

Through the SDT approach, this study uncovered the motivation behind taxpayers' decision to use blockchain technology based on a basic psychological need that should be met, i.e., the need for autonomy, i.e., taxpayers' compliance decision without coercion. Is the tax environment, through the existence of a taxation system, namely tax policies, tax laws, tax administration, and the tax officer itself as a tax environment, able to fulfill the basic psychological needs of taxpayers? The fulfillment of these psychological needs becomes the basis of values taxpayers own as individuals, ultimately shaping their behavior. Another strong basis behind this research is information technology, which has become a central issue in accounting and taxation. For example, in the accounting field, blockchain technology implementation has become a research trend because it can change the role of accountants and auditors and help understand the opportunities and challenges of blockchain technology applications and regulation of crypto assets (Garanina et al., 2022).

The model developed in this study aimed to synthesize the SDT constructions into the concept of user acceptance of the information system used by the Technology Acceptance Model (TAM) so that it can explain the determinants of behavioral intentions in using blockchain technology. Perceived enjoyment becomes the center to test how far perceived enjoyment mediates the need for autonomy and use intentions. Furthermore, perceived enjoyment was a direct predictor of the need for autonomy. In the context of this research, taxpayers need to feel autonomous about their choices. In other words, humans need self-determination. Further, the results of this study provide an essential contribution to the tax authorities to ensure the fulfillment of the basic needs of taxpayers before implementing tax policies and provisions so that taxpayers have a high intention to behave as expected, especially related to blockchain technology. This study also provides an important implication that in introducing technological innovations as part of tax administration, tax authorities should focus on excitement-related aspects when aiming to introduce blockchain technology applications that taxpayers will widely accept.

Literature Review and Hypotheses Development

Taxpayers' trust in tax officers will significantly affect the compliance level of taxpayers in carrying out their obligations in paying taxes. In Mukoffi et al. (2022), tax justice greatly influences taxpayer compliance, where taxpayers will experience more equitable regional development and get fairer services from tax officers when paying taxes. One form of injustice that the people themselves feel is corruption. Corruption, according to Law Number 20 of 2001, about an amendment to Law Number 31 of 1999 concerning the Eradication of Criminal Acts, is every person who unlawfully commits an act of enriching himself or another person or a corporation that can harm state finances or the country's economy. Corruption itself is endemic in Indonesia, where corruption in Indonesia has reached the top level of the pyramid compared to other countries. It can be seen from Transparency International that Indonesia itself in 2021 was at level 96 with a score of 38, where the value was calculated from 0, meaning a very high level of corruption, to 100, indicating no corruption.

As in technological innovation, individuals step up the 4.0 industrial revolution. It is signed by the appearance of new technologies, such as artificial intelligence, the internet of things, robotics, and blockchain. Blockchain is a very different and disruptive technology in the 21st century (Falwadiya & Dhingra, 2022). The blockchain system was initially used in cryptocurrency, known as bitcoin. The use of the blockchain is for recording and verifying the existing transactions, and if it is further developed correctly, it can be used and utilized in various fields (Lee et al., 2019). It is also in line with Falwadiya & Dhingra's (2022) opinion that the blockchain's features can be used by public organizations, companies, and other organizations to authorize transactions and update data in sync in the same network. Transaction data in the blockchain will also be distributed in a decentralized manner and processed by data management technology. Then, it results in trusted, guaranteed, integrated, and anonymized data without involving third parties to control the data (Lee et al., 2019). In addition, there are four basic concepts in recognizing blockchain (McEvoy et al., 2009), first, a distributed shared ledger where all recorded transactions cannot be deleted and edited. Second is permission, in which the members inside this network have unique permissions, such as unique code to access a network. Third is consensus, which is a mutual agreement between members in a network. Lastly, the smart contracts is formed as a set of rules stored by the blockchain and automatically executed as part of a transaction.

The effectiveness of implementing blockchain technology in taxation is heavily reliant on numerous uncontrollable elements, such as the taxpayer's motivation, which is split into intrinsic and extrinsic motivation (Nandi & Mehendale, 2022). In this study, autonomy and perceived enjoyment were used as determinants of behavioral intention, where the two variables are closely related because both are intrinsic motivations (Mujiyati & Achyari, 2009). Since SDT and TAM have been tried and approved to examine the adoption of new technologies, they are integrated into one study (Nandi & Mehendale, 2022). The integrated study of SDT and TAM to identify behavioral intention can be seen in numerous research studies, including (Linares et al., 2021), incorporating both theories, where the variables are autonomy and perceived enjoyment.

Widyarini (2021) explained that SDT is a theory that elucidates the motivation and the individual psychological roles in creating motivation in individuals to act according to their own will. Motivation can be influenced by intrinsic motivation, i.e., needs, activities, and values, or extrinsic motivation that comes from outside, such as rewards and punishments. It can be illustrated that when an individual is not interested in what he is doing, it will decrease his motivation for what he is doing (Knee et al., 2013). Deci (1971) has experimented that there is extrinsic motivation, such as the presence of prizes or awards for certain attitudes. The results showed a negative impact on self-motivation compared to motivation triggered by prizes or rewards for certain attitudes. Widyarini (2021) supports this statement that motivation comes from the self, but if there is extrinsic motivation, such as rewards or punishments, the motivation result will be negative. Hence, SDT is used to measure someone who is intrinsically motivated. The individual tends to learn intensely, persistent, and diligent, and it will give better results than people who are not intrinsically motivated (Martela, 2020). SDT has three basic needs to achieve individual intrinsic motivation. The first is competence, which is an ability to master some things effectively. The second is relatedness or interconnected feeling. The last is autonomy, which is the ability to make decisions for themselves without interference from others (Ryan & Deci, 2008). Indeed, the variable to be used in this study was autonomy.

Racero et al. (2020) asserted that autonomy is closely related to the self. It is also defined as an action based on self-choice or self-control. Autonomy produces a feeling that impacts individual behavior and triggers someone to take action voluntarily. Autonomy can also lead to better performance in individuals interested in their work. The existence of a supportive autonomy environment will also increase individuals to behave specifically. In this case, perceived enjoyment has a relationship with intrinsic motivation. Lee et al. (2015) stated a positive relationship between autonomy and perceived enjoyment. It also aligns with Luo et al.'s (2021) statement that the positive relationship between autonomy and perceived enjoyment results in individuals not feeling pressured to make their own decisions. Then, the individuals can feel high perceived enjoyment. Not only those statements but also the research by Kabir (2021) revealed that autonomy positively and significantly affected behavioral intention. Therefore, the hypotheses were formulated as follows:

H_1: *Autonomy has a positive effect on perceived enjoyment.*

H_2: *Autonomy has a positive effect on behavioral intention.*

Technology Acceptance Model (TAM) is one of the models that can predict how users behave toward new technology. In technological innovation, TAM can provide a plausible explanation for society's psychological mechanisms in adopting technology. It is such as the user's perspective on the certain technology, what factors will affect users, and how the intention of users to accept the existence of a technology (Shin et al., 2022). Thus, TAM is often used to describe or predict how the behavior of potential users in adopting new technologies in various fields (Shin et al., 2022). TAM is also widely used to

investigate individual intentions to adopt blockchain. For example, in research conducted by Khazaei (2020) and Gao and Li (2021), they used TAM to study individual acceptance toward blockchain to get significant results. Moreover, behavioral intention is defined as how far an individual consciously conducts or does not conduct a certain behavior in the future (Shrestha & Vassileva, 2019). Two variables become the community's key in accepting the technology: perceived usefulness and perceived ease of use (Man et al., 2021).

On the other hand, an activity is considered enjoyable in personal rights regardless of the results received (Sarosa, 2019). Thus, it can be said that perceived enjoyment, often known as intrinsic motivation, is the personal enjoyment felt from behavioral experiences for its own sake (Hu et al., 2022) and (Hasan et al., 2021). Perceived enjoyment is also often included in the TAM model as one of the basic factors influencing the user's intention. The enjoyment felt by the user can also be felt through direct interaction with the factors to be used (Chen et al., 2016). It can have a side effect on the attitude and willingness of users to use new technology positively (Oyman et al., 2022). The research results of Pipitwanichakarn and Wongtada (2019) and Gao and Li (2021) stated that perceived enjoyment has an important role in technology users' intention to adopt blockchain technology. Therefore, the following hypothesis was proposed:

H_3: *Perceived enjoyment has a positive effect on behavioral intention.*

Mediation is the third variable that intervenes with exogenous and endogenous variables. In this study, perceived enjoyment was proposed to mediate between (1) autonomy and (2) behavioral intention. However, there is no research on the mediation of perceived enjoyment between autonomy and behavioral intention; several studies, such as Hasan et al. (2021), used perceived enjoyment as a mediation on buyer intentions, Baños et al. (2020), employed behavioral intention as a mediator of autonomy, and Septiana et al. (2020), utilized behavioral intention to mediate perceived enjoyment. Thus, it is related to research on perceived enjoyment as a mediating variable between autonomy and behavioral intention.

H_4: *Perceived enjoyment mediates the influence of autonomy on behavioral intention.*

Research Method

The sample of this study was taken by using a purposive sampling technique. It was applied by distributing questionnaires with the criteria that the respondent was an Individual Taxpayer (WPOP) with an Individual Taxpayer Identification Number (NPWP). Some had a job as an employee, freelancers, or business people. A total of 153 questionnaires were collected, including 135 valid questionnaires with an effective questionnaire response rate of 88.23%. The questionnaire would be used to determine the factors influencing the intention of individual taxpayers to use blockchain technology in the tax system in Indonesia. The questionnaire was made using a Likert Scale. The

answer value consists of numbers 1 to 5, provided that number 1 is “strongly disagree,” number 2 is “disagree,” number 3 is “neutral,” number 4 is “agree,” and number 5 is “strongly agree.” Then, this study processed and analyzed the data using Structural Equation Modeling (SEM) with Partial Least Square (PLS)-SEM approach.

Moreover, Self-Determination Theory is a motivation theory that explains individuals' acts determined and motivated by themselves. The motivation of this individual will increase if those three needs are met, one of which is autonomy. Autonomy is an internal sense of approval of one's behavior. In this study, autonomy was measured by indicators of self-control, interest, and self-confidence (Micarelli et al., 2016).

Then, the perceived enjoyment that someone has will influence the behavioral intentions of taxpayers in adopting blockchain technology-based applications for tax activities. Perceived enjoyment is also an intrinsic motivation assuming that using technology is enjoyable without considering the performance of the technology. Perceived enjoyment in this research was measured by indicators of user enjoyment and satisfaction in using blockchain technology (Balog & Pribeanu, 2010).

Lastly, the behavioral intention in TAM depicts the person's intention to use technology. Since the discourse from the government in using tax based on the blockchain system does not exist, the authors examined the behavioral intention, not the actual use of blockchain technology for taxes. In this research, the behavioral intention was measured by indicators of interest in using technology (Balog & Pribeanu, 2010; Chayomchai, 2020)

Results and Discussion

The framework used in this study was Structural Equation Modeling (SEM). The research data were analyzed in two stages: Confirmatory Factor Analysis (CFA) and SEM. In the first stage, the researchers used CFA to test the hypothesis between the indicator variables and the latent construct as the basis. In short, CFA is an analysis used to assess measurement theory. The second stage is SEM, testing whether there is meaning in the theoretical structural relationship and the construct.

The questionnaire was online-distributed and got as many as 135 effective respondents. Respondents consisted of 48.4% male and 51.6% female (Table 1). Overall, all respondents had taxpayer identification Numbers (NPWP). In addition, 45.2% of respondents lived in Surabaya, and others lived in other cities. Most of their occupations were entrepreneur, private worker, and accountant.

Additionally, the research by Kabir (2021) has the same goal as this research: to see the intention to adopt blockchain technology for the transparency and effectiveness of the tax system. However, there are some differences between this study and that of Kabir (2021). The first difference lies in the jurisdictions studied, where the current authors examined taxpayers with Indonesian citizenship and taxpayers living in Indonesia. The next difference is in the variables that were the research object. Research by Kabir (2021) did not use any mediating variable that might give such effects. Meanwhile, this research

discussed the desire arising from the taxpayers having the intention to adopt blockchain and whether to have this intention; even though there is encouragement from within themselves, taxpayers need to feel happy. In this case, the authors discussed the direct effect of autonomy from SDT and indirect effects from perceived enjoyment as the mediating variable from TAM on the intention to adopt blockchain technology.

Table 1 Demographic Profile of Respondent (n=135)

Variables	n	%
Gender		
Male	65	48.4
Female	70	51.6
Age (Years)		
18 to 25	77	56.9
26 to 30	26	19.0
31 to 35	16	11.8
36 to 40	5	3.9
41 to 45	4	2.6
>46	8	5.9
Understanding of Blockchain		
Yes	84	62.1
No	51	37.9

Outer Model Analysis

Table 2 Reliability and Convergent Validity

Variable	Statement	Loading Factor	Composite Reliability	Cronbach's Alpha	AVE
Autonomy (AM)	If the process of reporting, depositing, and paying taxes is done using blockchain technology, it will be very helpful for me.	0.799	0.927	0.902	0.719
	The application of blockchain technology will make me more motivated to complete my tax obligations.	0.865			
	If blockchain technology is implemented, I will enjoy registering, reporting, depositing, and paying taxes.	0.862			
	I will be happy if the process of implementing tax administration is carried out using blockchain technology.	0.816			
	I will feel comfortable using blockchain technology in carrying out my tax obligations.	0.895			

Table 2 Reliability and Convergent Validity (Cont')

Variable	Statement	Loading Factor	Composite Reliability	Cronbach's Alpha	AVE
Perceived Enjoyment (PE)	Using an integrated application based on blockchain technology to carry out tax obligations is fun.	0.87	0.922	0.887	0.747
	I enjoy using an integrated website or application based on blockchain technology to carry out my tax obligations.	0.9			
	I feel excited about using a website or application based on blockchain technology to carry out tax obligations.	0.818			
	The actual process of using just one website or application based on blockchain technology for taxation is fun.	0.868			
Behavioral Intention (BI)	I plan to use a website or application based on blockchain technology when it becomes available.	0.919	0.944	0.93	0.707
	I plan to use blockchain technology-based websites or applications for taxation when they become available.	0.865			
	I plan to use a website or application based on blockchain technology to speed up activities.	0.779			
	I plan to use a website or application based on blockchain technology as a tool for the tax system.	0.824			
	I plan to use a website or application based on blockchain technology for taxation when it becomes available.	0.857			
	I want to continue using websites or applications based on blockchain technology for taxation.	0.816			
	I plan to recommend a website or application based on blockchain technology to carry out tax obligations to other parties or people.	0.816			

The outer model is a test to determine whether the research instrument consistently presents the measurement concept. The outer model was tested using convergent validity, discriminant validity, reliability, and internal consistency. AVE (Average Variance

Extracted) was used to measure convergent validity. Cronbach Alpha and composite reliability were employed to test internal consistency. Meanwhile, discriminant validity was measured as mentioned in Table 3 (Hasan et al., 2021) and (Mangoting et al., 2021).

The reliability test was calculated by a loading factor with a value of more than 0.7. Then, the average variance extracted (AVE) was tested with a value of more than 0.5. It indicates 50% or more of the variance of the explained indicator. Besides, the reliability test was determined to prove the instrument's consistency and accuracy in measuring the construct. It was tested with composite reliability and Cronbach's Alpha with the provision that the value should be higher than 0.7 (Ghozali & Latan, 2015). The variables in this study met the requirements of convergent validity and reliability tests because they exceeded the provisions which can be seen in Table 2.

Table 3 Discriminant Validity

Variable	Autonomy	PE	BI
Autonomy	(0.848)	0.821	0.787
PE	0.821	(0.864)	0.762
BI	0.787	0.762	(0.841)

Then, discriminant validity measures different latent variables that should not be highly correlated. The requirement of discriminant validity is cross-loading, where the other constructs (cross-loading) must be lower than the construct. Besides, there is a square root of AVE, in which the construct must be higher than latent variables in the same column (Sholihin & Ratmono, 2013). Table 3 has met the criteria of discriminant validity.

Inner Model Analysis

The inner model is the second stage in the PLS method, which aims to determine the effect of the independent variable on the dependent variable. This effect can be seen in the p-value, where the hypothesis is accepted and considered to have an effect if the p-value is <0.05 (Meyer et al., 2017). Inner model testing includes Average Path Coefficient (APC), Average R-Squared (ARS), and Average Block VIF (AVIF). APC and ARS have p-value <0.05 and AVIF <5 (Widyawati, 2018). Based on the results in Table 4, it can be seen that APC and ARS in this study had p-value <0.05 and AVIF <5. Indeed, it can be concluded that the inner model met the criteria.

Table 4 Model Fit and Quality Indices

	Index	P-value	Criteria	Explanation
APC	0.560	< 0.001	P < 0.05	Acceptable
ARS	0.686	< 0.001	P < 0.05	Acceptable
AARS	0.683	< 0.001	P < 0.05	Acceptable
AVIF	4.323		≤ *5, Ideal,* ≤ 3.3	Acceptable
AFVIF	3.392		≤ *5, Ideal,* ≤ 3.3	Acceptable
GoF	0.705		Small ≥ 0.1	Large
			Medium ≥ 0.25	
			Large ≥ 0.36	

Table 4 Model Fit and Quality Indices (Cont)

	Index	P-value	Criteria	Explanation
SPR	1.000		≥ 0.7, $Ideal$ = 1	Ideal
RSCR	1.000		≥ 0.9, $Ideal$ = 1	Ideal
SSR	1.000		≥ 0.7	Acceptable
NLBCDR	1.000		≥ 0.7	Acceptable

Hypothesis Testing

From the first hypothesis, it can be seen that the autonomy variable on perceived enjoyment had a p-value <0.01 and a path coefficient of 0.84 (Table 5). Thus, the results of the first hypothesis (H1) were accepted. It denotes that the higher the fulfillment feeling of taxpayer autonomy, the more significant and positive the effect on the perceived enjoyment of the taxpayer. It is consistent with (Luo et al., 2021), stating that individuals who are not under control or not suppressed in accepting the technology will feel higher enjoyment. Lee et al. (2015) also said that the more individuals can control themselves, the more pleasure they feel in using technology. The results of this study also support the Self-Determination Theory, which reveals that intrinsic motivation arises from fulfilling autonomy needs.

Table 5 Model Fit and Quality Indices

Direct Effect	Path Coefficient	P-value
Autonomy → PE	0.84	< 0.01
Autonomy → BI	0.57	< 0.01
PE→ BI	0.27	< 0.01

The second hypothesis (H2) results in Table 5 show that autonomy had a significant positive effect on behavioral intention with a p-value <0.01 and a path coefficient of 0.57. It indicates that the higher fulfillment of the autonomy feeling of taxpayers who adopt blockchain technology voluntarily, the higher the taxpayers' intention to adopt it. It corroborates with (Kabir, 2021), where the more taxpayers have freedom or control, the higher the taxpayer's intention to adopt blockchain technology.Widyarini (2021) also said there is a relationship between autonomy and behavioral intention to use technology.

The results of the third hypothesis (H3) were also accepted. The perceived enjoyment variable had a significant positive effect on behavioral intention. It was proven by the p-value <0.01 and the path coefficient of 0.27 (Table 5). In other words, the higher the enjoyment and pleasure of taxpayers in using blockchain technology, the greater the behavioral intention to adopt blockchain technology for taxes. This study's research results align with (Gao & Li, 2021), where the perceived enjoyment of taxpayers will affect the behavioral intention to adopt tax administration using blockchain technology. Septiana et al. (2020) and Shrestha and Vassileva (2019) also asserted that user convenience in using technology is very influential, so perceived enjoyment is an important construct related to taxpayers' intention to adopt blockchain technology.

The results of the fourth hypothesis (H4) were seen by testing the mediating effect as follows:

SEM can be used to determine the mediating effect and quantify the mediating variable's power (Zhao et al., 2010). In this study, the parameter of mediating effect was calculated directly utilizing WarpPLS. As explained by Zhao et al. (2010), the classifications of the type of mediation or not mediation are as follows: 1) Complementary mediation: indirect effect (axb) and direct effect (c) are significant, and both point in the same direction. 2) Competitive mediation: indirect effect (axb) and direct effect (c) are significant but point in opposite directions. 3) Indirect-only mediation: indirect effect (axb) is significant, but the direct effect (c) is not significant. 4) Direct-only non-mediation: indirect effect (axb) is not significant, but the direct effect (c) is significant. 5) No effect non-mediation: indirect effect (axb) and direct effect (c) are insignificant.

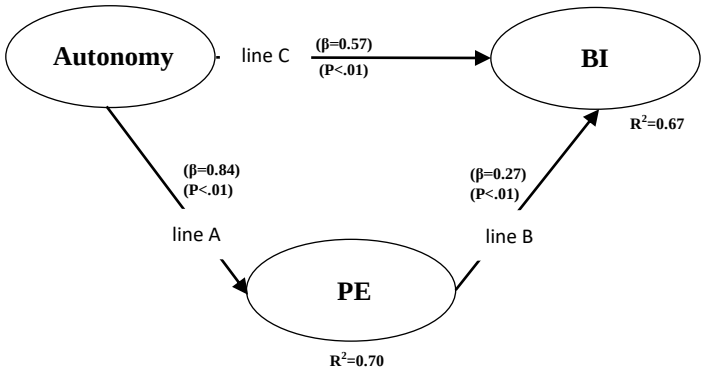

Figure 1 Indirect Effect Estimation

As shown in Figure 1, line C is the direct effect from autonomy to behavioral intention, line A is from autonomy to perceived enjoyment, and line B is from perceived enjoyment to behavioral intention.

Table 6 P-values of Indirect Effects for Path with Two Segments

	Autonomy	PE	BI
Autonomy			
PE			
BI	< 0.001		

In Figure 1, the direct effect (c) had a path coefficient value of 0.57 with a p-value <0.01, meaning that line C was significant. For the indirect effect (axb), WarpPLS provided the calculation directly, which can be seen in Table 6, and the p-values of indirect effects for a path with two segments revealed that the p-value was <0.001 with a path coefficient of 0.225.

Therefore, based on the variable mediation test above, perceived enjoyment partially mediated the relationship between autonomy and behavioral intention with a p-value <0.001 and a path coefficient of 0.225. Then, the fourth hypothesis (H4) was accepted.

Then, testing the effect of mediation based on theory uncovered a partial relationship. It can be seen from the decrease in the line C path coefficient from 0.81 to 0.57 but with a significant p-value. The results of this mediation indicate that the intrinsic motivation of taxpayers, namely the enjoyment feeling, had an indirect effect in creating the fulfillment of taxpayer autonomy feeling. It has implications for increasing the taxpayer's behavioral intention in adopting blockchain technology.

Conclusion

This research develops an integrative model to explain how taxpayers' behavioral intentions to use blockchain technology are influenced by autonomy and perceived enjoyment. The findings in this study indicate that there is a behavioral intention of taxpayers to use blockchain technology, as evidenced by the encouragement (autonomy) of taxpayers. The ability to do something without interference from others is crucial as it can influence taxpayers' willingness to adopt blockchain technology. Furthermore, the perceived enjoyment obtained from taxpayers who have their freedom or are not controlled by others in using blockchain technology in tax administration will create intentions for taxpayers.

Moreover, the mediation test results showed that perceived enjoyment was a significant mediator, but it was not greater than the direct effect between autonomy and behavioral intention. In the tax administration system, the intention to use blockchain technology will emerge due to the taxpayer's desire to use the technology (autonomy). Taxpayers also do not need to be happy (perceived enjoyment) to be motivated to use blockchain technology.

This research has several limitations. First, the models and hypotheses in this study have never been studied as a series. Therefore, the model and hypothesis should be investigated more deeply. Second, most respondents only briefly understood how blockchain technology works. Third, other factors might affect user intentions in adopting blockchain technology.

Future research regarding the effect of blockchain technology on taxpayers is still greatly needed. The researcher could expand by investigating the results of the adoption of blockchain technology with several enhancements. First, the researcher could aim for a respondent with a good understanding of blockchain technology. A respondent that lacks an understanding of blockchain technology will significantly impact the result of the data process. Future researchers can also consider using another variable, such as perceived usefulness, perceived ease of use, and trust to conduct the research.

This research provides insight into the application of blockchain technology in the tax system, which will increase transparency and effectiveness. For now, Indonesia might still not have sufficient technology to apply blockchain technology in the tax system. This research was conducted to observe whether this blockchain technology will later enter and be used in Indonesia in the taxation system and what taxpayers' reactions or

intentions are in using it. Since using blockchain technology will lead to transparency and effectiveness later, it will encourage taxpayers to carry out their obligations without fear and difficulty when using a "system" built by the tax authority.

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