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INTERNET OF THINGS (IOT) ADOPTION IN REMOTE AUDIT: A QUANTITATIVE STUDY APPLYING THE TECHNOLOGY ACCEPTANCE MODEL

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ABSTRACT

Internet of Things (IoT) system has been adopted by many in various industries as it facilitated the completion of people's work, including audit. IoT enables its users to collect and process enormous amounts of data, while also to monitor and track the data among IoT-based devices in real-time. For that reason, IoT system has been applied to support auditors doing their work remotely. This study is designed to assess users' acceptance of IoT-based technology, focusing on the field of audit that is done remotely in public accounting firms in Indonesia. This research uses the Technology Acceptance Model (TAM) that measures the adoption of new technologies with perceived ease of use and perceived usefulness to study users' intentions to adopt a technology, while also adding perceived enjoyment to measure the degree to which the user perceives a usage of a certain system to be enjoyable. This research incorporates these factors as the independent variables to investigate auditors' intention to use IoT-based remote audit processes. Finally, audit firm size is used as moderating variable to see if there are any changes made on perceived ease of use, perceived usefulness, and perceived enjoyment's effect on the intention to adopt IoT-based remote audit, that was caused by the moderation. The data collected from 100 auditors in public accounting firms located in Indonesia is then used to conduct the hypothesis testing using Partial Least Squares Structural Equation Modeling. The research's conclusions showed that the adoption of IoT-based remote audit is significantly influenced by perceived enjoyment rather than perceived usefulness or perceived ease of use. Furthermore, the size of the audit firm did not exhibit moderating capabilities on the influence of implementing IoT-based remote audit.

Keywords: *Internet of Things (IoT), Remote Audit, Auditors, Technology Acceptance Model, Intention to Adopt*

1. INTRODUCTION

1.1 Research Background

In the recent decades, technology usage in various industries has revolutionized the way people interact with the world around them. Audit activity becomes one of the areas that has greatly benefited from the integration of technology. A study stated that both accounting and audit activity around the world are keeping up with the pace of digital transformation, which makes the professions go beyond its traditional paradigm [1]. New approaches and methods are being adopted as a way to keep those professions of one's organization to remain relevant in terms of its efficiency, effectiveness, and economy among the others out there. On top of that, the said adoption is encouraged to be done to yield enhanced audit processes, such as gathering audit evidence, monitoring, and reporting. It is affirmed that the Internet of Things (IoT) is expected to be a part of the critical elements to realize that. According to [2], the use of sensing technology in IoT is able to optimize data collection and utilization, as well as to capture those data in real-time. With IoT, auditors are no longer limited to the data samples, since IoT sensors enable them to include the vast amount of data in the entire population.

As IoT-based remote audits have emerged as a transformative technology in the audit field, their ability to enable real time data collection and improve audit accuracy and timeliness is fulfilling the increasing demand of efficiency and effectiveness in regards to helping auditors analyze large volumes of data during remote audit [3]. A

study found that the most prominent advantage perceived in remote audits is the enhanced efficiency which leads to both time and cost savings. Furthermore, remote audits can improve the flexibility for conducting audits by allowing for better control over audit timing and the coordination of interview schedules with the auditee [4]. The support from the auditee for the remote also stands out as a major determinant of efficiency and effectiveness. This finding holds an important relevance for auditors when designing remote audits. Collaborative engagement with the auditee is a crucial element for remote audits to be successful, supported by the appropriate technological infrastructure and software/hardware to allow for remote audits. One of which is by utilizing IoT in the audit process, starting from the stage of gathering evidence, reviewing documents, physical examination and conducting interviews done remotely. The usage of an appropriate IoT system in collecting audit evidence is essential to reach audit results that serves as a benchmark for improving business processes and making quality decisions [5].

IoT has also been applied to support auditors doing their work remotely, which then started being increasingly done by many since the COVID-19 pandemic hit at the beginning of 2020. Regardless of the pandemic, the occurrence of disruptive technology has forced auditors to adapt with the working patterns that have drifted from the traditional method [6]. Auditors are in need of a new set of skills such as data analysis and statistics, given the anticipated automation of many repetitive tasks [7]. During the lockdowns, audit firms are obliged to shift from a conventional face-to-face work setting to a remote environment. In regards to this situation, IoT-based remote audit has been expanded even more than before, though the remote practice is claimed to be rather challenging and required a thorough audit planning [8]. To evaluate the adoption of IoT for remote audits, it is essential to examine the factors influencing auditors' willingness to adopt it, considering its benefits in providing real-time data access and improving audit efficiency.

The Technology Acceptance Model (TAM) will be used to measure and analyze the adoption of new technologies, which incorporates two primary factors that can influence technology acceptance: perceived usefulness and perceived ease of use. Additionally, the study will incorporate perceived enjoyment as a variable that may interact with the two factors, as research has indicated connections with perceived ease of use and perceived usefulness, ultimately impacting a user's intention [9], [10]. Other preliminary researches have conducted an examination of advanced technology adoption in audit using the Technology Acceptance Model as well, namely [11], [12], and [13]. However, no study has yet used the perceived enjoyment variable to examine the adaptability and intention of users in the matter of adopting new technology in audit. That being so, this becomes one of the novelty offered in this study.

1.2 Problem Statement

As a consequence of the problem discussed in this research is in regards to the adoption of IoT-based remote audit, the problem statement will be made to discover whether or not auditors' perceived ease of use, perceived usefulness, and perceived enjoyment have a significant effect on the intention to use IoT in remote audit; while also employing firm size to moderate the three relationships mentioned. The questions proposed are as follow:

1. Do auditors' perceived ease of use have a significant effect on the intention to use IoT in remote audit?
2. Do auditors' perceived usefulness have a significant effect on the intention to use IoT in remote audit?
3. Do auditors' perceived enjoyment have a significant effect on the intention to use IoT in remote audit?
4. Does firm size moderate the relationship between perceived usefulness and the intention to use IoT in remote audit?
5. Does firm size moderate the relationship between perceived ease of use and the intention to use IoT in remote audit?
6. Does firm size moderate the relationship between perceived enjoyment and the intention to use IoT in remote audit?

2. LITERATURE REVIEW

2.1 Technology Acceptance Model

As previously explained, the use of technology has become crucial in almost every human activity in various industries, which makes people from various professions, including auditing, are expected to rapidly adapt to existing advances. Technology Acceptance Model, or what is usually referred to as TAM, is known to be one of the most prominent and widely used models by many different fields of studies to explain and examine users' technology acceptance behavior in information systems or information technologies [9]. This model was first introduced and designed by Fred Davis in 1986, which is an extension of Theory

of Reasoned Action (TRA) as its theoretical foundation. TRA suggests how there are beliefs, attitudes, intentions, and behaviors involved in a decision-making process, which can be positive or negative, as a form of one's behavior response to something that is general and not limited to a particular domain [14], [15].

On the other hand, TMA explains and predicts individual's acceptance of technology involving intentions, attitudes, actual use of technology, perceived usefulness, and perceived ease of use [15]. This is the point of distinction, as a development of the model, TAM is more specific, relying on perceived usefulness and perceived ease of use as the two main elements impacting a potential user's acceptance of technology. The model helps in trying to understand how an individual's perception can affect their interest in utilizing technology.

Perceived usefulness is characterized by the user's belief in how the utilization of technology or system can improve their work performance, whereas perceived ease of use is characterized by the user's belief in how easily or effortlessly a technology or system can be operated [16] as cited in [15]. In alignment with prior research, this study will apply the two principal factors of TAM to examine their influence on users' intent to adopt IoT in remote audits, along with perceived enjoyment, as the independent variable. Technology Acceptance Model contains a framework that is suitable to investigate a technology integrated activity which will lead to resulting certain behavior of the adoption decision.

2.2 IoT in Remote Audit

Remote auditing involves performing audit activities through electronic means, utilizing platforms like video conferences, email, and voice calls to collect evidence [17].While this type of audit shares similarities with traditional audit methods, the distinction lies in its execution from a certain location, facilitated by the usage of information and communication technology. Hence, remote audit eliminates the necessity for the auditor to engage in in-person meetings with the audited party, as examinations can be carried out using computers and information technology equipment [3].

One approach involves integrating internet of things (IoT) systems into the audit process. The utilization of IoT data as audit evidence offers extensive opportunities, such as real-time collection of data, enhancing risk assessment process and introducing innovative methods to test management's assertions [2].

The changes resulting from the transition of the audit process from traditional face-to-face methods to IoT-based audit techniques have significantly transformed the working patterns of auditors. In practice, not all auditors are ready for such a shift, as it demands proficiency in technology usage and an adjustment from established in-person audit methods to remote audit approaches [5].

2.3 Effect of Perceived Ease of Use on Intention to Use IoT in Remote Audit

When utilizing technology, a potential user will expect the new system that is being leveraged to be free from difficulties. This means that the easier a system usage, the greater possibility that an action will be taken as a consideration, or what can also be referred to as intention. This is also related to an inference proposed by [18], which stated that users are more inclined to adopt a novel technological concept, such as IoT, if they perceive the system is user-friendly and requiring minimal effort. Another study within the educational systems domain, conducted by [19], found that perceived ease of use has a significant and positive effect on the behavioral intention to adopt IoT technology. Therefore, the following is the first hypothesis proposed:

H1: Perceived ease of use has significant effect on intention to use IoT in Remote Audit.

2.4 Effect of Perceived Usefulness on Intention to Use IoT in Remote Audit

According to [16], perceived usefulness is related to an individual's belief regarding the extent that adopting a new system can improve their work performance, this is also supported by [20]. It is theorized that this factor directly influences the behavioral intention to use. Recent study demonstrated that the implementation of IoT-based remote audit for audit evidence collection has encouraged improving the quality of the devices used in order to support audit activities due to the usefulness it offers [5]. Therefore, the hypothesis of perceived usefulness on the intention to use IoT in remote audit is proposed.

H2: Perceived usefulness has significant effect on intention to use IoT in Remote Audit.

2.5 Effect of Perceived Enjoyment on Intention to Use IoT in Remote Audit

Perceived enjoyment is not actually part of factors in the TAM framework that was first designed in 1986. Even so, TAM itself has undergone several modifications to finally include perceived enjoyment as one of the constructs, alongside the priorly existing constructs, perceived

ease of use and perceived usefulness. Perceived enjoyment is described as the degree that the user perceives a usage of a particular system to be enjoyable in its own right as defined by [21], as cited in [22]. It has been studied to have an influence on intention and intensity in utilizing technology, as it is a form of comfort perception of an individual, in which the actual usage depends on [23], (as cited in [22]).

While there is no research that has explored the direct causal link between perceived and the adoption of IoT-based remote audit specifically, [24] undertook a study to investigate the impact of perceived enjoyment on the users' attitude towards a relatively new university website. The study attested a hypothesis stated that perceived enjoyment is able to influence the acceptance of IT, which leads to the next hypothesis proposed in this study:

H3: Perceived enjoyment has a significant effect on intention to use IoT in Remote Audit.

2.6 Moderating Effect of Firm Size

A prior study stated that the size of a firm enhances the impact of technology adoption of another AI technology, such as machine learning. Notably, big four audit firms known for their larger budget compared to non-big four firms, possessing the financial capacity to make investments in advanced hardware and software, facilitating the adoption of technology [13]. These investments made by the big four audit firms in technology and digitalization over the years, even before the start of the pandemic, likely contributed to the seamless transition of their engagement teams to remote work environments (EY 2020; KPMG 2020; PricewaterhouseCoopers (PwC) 2020; Deloitte 2021 as cited in [25]). From these findings that highlight the influence of firm size on technology adoption, the following hypotheses are proposed.

H4a: Firm size moderates the relationship between perceived ease of use and intention to use IoT in remote audit.

H4b: Firm size moderates the relationship between perceived usefulness and intention to use IoT in remote audit.

H4c: Firm size moderates the relationship between perceived enjoyment and intention to use IoT in remote audit.

3. RESEARCH METHODOLOGY

This study employs a quantitative research methodology, characterized by the analysis and examination of relationships between variables by utilizing numerical data gathered, to then be applied with statistical methods [26], [27] (as cited in [28]). Therefore, the variables used in this study will be ensured to generate questions as measurements that will yield numerical data to be analyzed and to assess the proposed hypotheses. The primary data for this research will be collected through surveys, by distributing questionnaires prepared regarding the variables and hypotheses to be tested. The questions will be based on the main indicators for each variable. This questionnaire will be made with Google Forms, then will be distributed to auditors working in public accounting firms in Indonesia representing the study's population. Since the population size cannot be determined specifically due to the uncertainty in the number of auditors that are employed at public accounting firms, the study will apply an approach proposed by [29], which states that unknown population is recommended to be at least 10 times the number of variables. Accordingly, the number of respondents is decided to be 100 people.

The questionnaire will utilize a five-point Likert Scale, ranging from 5 for "strongly agree" to 1 for "strongly disagree" to measure the variables of perceived usefulness, perceived ease of use and perceived enjoyment. Audit firm size will be represented through two dummy variables, distinguishing between big four and non-big four public accounting firms. The study will also collect data on two control variables, which is auditor competence and usage experience.

Convenience sampling and snowball sampling will be conducted as the two forms of non-probability sampling method. Convenience sampling is a method of collecting samples through respondents, which then each respondent will pass or suggest the questionnaires of the researcher to another potential respondent whose data will be collected next. This action goes on continuously, thus the sample size will grow like a rolling snowball [30]. On the other hand, convenience sampling is a method of collecting samples through respondents that are reachable and have access to the researcher. For this reason, this method is considered not as costly nor as effortful as other sampling methods [31]. This method is particularly effective to be applied when the researcher is situated in an environment where respondents who mee the population criteria are readily available and accessible.

Operationalization of variables involved in defining the variables that are tested or measured on specific criterias. In measuring the variable in this research, Table 1 provides a representation of the operationalization of variables.

Table 1: Operation of Variables

Operation of Variables		
Variable	**Main Indicator**	**Source**
Auditors' Perceived Ease of Use (PEU)	1. Time required for auditors to complete tasks. 2. Number of training hours required for auditors to become proficient. 3. Convenience in carrying out audit works is obtained. 4. The system allows auditors to carry out fewer steps or effort in their audit work.	[32], [19].
Auditors' Perceived Usefulness (PU)	1. Enhance audit efficiency. 2. Improve quality of audit work. 3. Auditor's perception of how IoT benefits the audit process. 4. Derive more advantages in using the system.	[25], [16].
Auditors' Perceived Enjoyment (PE)	1. Ratings of user experience. 2. Derive user satisfaction in using the system. 3. Productivity improvement caused by work comfort.	[24].
Audit Firm Size (FS)	1. Big Four public accounting firm. 2. Non-Big Four public accounting firm.	[33], [34].
Adoption of IoT in Remote Audit (ARA)	1. Frequency of use. 2. Difference significance level. 3. Auditor's intention to use in the foreseeable future. 4. Auditor's willingness to fully adopt the system.	[5], [32].
Usage Experience (UE)	1. Have experience and/or received training	[35].
Auditor Competence (AC)	1. Have required skill sets	[36].

4. RESEARCH RESULT AND DISCUSSION

4.1 Identity of Respondents

The questionnaire form was created and distributed to 100 respondents comprising auditors employed at public accounting firms in Indonesia as the object of this research. The demographic questions prepared include recognition of respondents' gender, age, position, work experience, and firm size they are working at. The data collected is summarized in the following table:

Table 2: Identity of Respondents

Gender		**Position**	
Male	62	Junior Auditor	71
Female	38	Senior Auditor	24
Age		Supervisor/Manager	5
20-30 years old	96		
31-40 years old	4	**Work Experience**	
Firm Size		1-5 years	88
Big Four	41	6-10 years	11

Non-Big Four	59	11-15 years	1

The data presented in table 2 concludes that most of our respondents are male, aged between 20 to 30, positioned as junior auditor, employed in non-big four public accounting firms, and with work experience spanning from 1 to 5 years. The data was obtained from the first five questions, while the rest of the sections cover the questions referring to variables' indicators. Both exogenous and endogenous variables' relationship to one another is built into a structural model, and will be tested and analyzed using Partial Least Square (PLS) approach on SmartPLS 4. The following sub-chapters discuss the findings of the test results.

4.2 Outer Loading Test

In reflective measurement models, outer loadings represent the estimated relationships indicated by the arrows extending from the latent variable to its indicators. This measurement model, which is also called the outer model, is evaluated to determine how reflective each latent variable is with its observed indicators. The indicators with outer loadings below 0.40 should be eliminated from the construct [37], thus eliminating ARA 2 and PEU 2. After the deletion of the mentioned outliers, all outer loadings of the reflective construct ARA, PE, PEU and PU surpassed the threshold value of 0.70. This outcome shows sufficient levels of indicator reliability, signifying that the latent variables employed to measure the construct are able to represent their respective indicators.

Table 3: Outer Loading Value

Indicator	Loading	Indicator	Loading
ARA 1	0.814	PEU 3	0.857
ARA 3	0.902	PEU 4	0.860
ARA 4	0.925	PU 1	0.835
PE 1	0.889	PU 2	0.811
PE 2	0.910	PU 3	0.887
PE 3	0.885	PU 4	0.895
PEU 1	0.837		

4.3 Validity and Reliability Test

Validity and reliability tests need to be conducted with the aim of uncovering how well the measuring instruments in a research are. The presence of the two features is said to be important in order to ensure that a research produces a beneficial and accurate evaluation [38]. Both conditions must be fulfilled at once, meaning that obtaining a measurement's validity alone is not enough to conclude that it is also reliable, and the same goes for a measurement's reliability. A validity test assesses the degree to which a measuring instrument accurately measures its intended construct [39]. Once both validity and reliability of the constructs have been established, it helps safeguard that proper model has been used which is reflected in accuracy and consistency respectively.

Validity is categorized into two types: convergent validity and discriminant validity. Convergent validity evaluates the degree to which the used measurements that have a strong relationship on the same construct are related to one another. To evaluate convergent validity, the Average Variance Extracted (AVE) measure will be employed, and indicators must surpass a threshold of 0.5 in AVE value to successfully pass the convergent validity test [40]. This suggests that the latent construct explains over half of the variance observed in its indicators. Therefore, every indicator has met the acceptable level of convergent validity as seen on the values presented in Table 4 showing that all AVE values exceeded 0.5.

Table 4: Average Variance Extracted

Variable	Average Variance Extracted (AVE)
Adoption of IoT in Remote Audit (ARA)	0.778
Perceived Enjoyment (PE)	0.801
Perceived Ease of Use (PEU)	0.725
Perceived Usefulness (PU)	0.736

Discriminant validity test explains the extent to which the used measurements that have a lack of relationship or correlation on two different constructs are unrelated to one another. Discriminant validity can be evaluated using the The Fornell-Larcker criterion which involves confirming if the square root of the AVE of each construct is greater than its cross correlation with other constructs [40]. Table 5 below demonstrates that the square root of the AVE generates the highest value compared to the correlation of each construct with other constructs,

thus this finding can be concluded that there are no discriminant validity issues. The moderating variable of audit firm size was not tested because it is categorized as a binomial dummy variable.

The two validity tests provide support in evaluating whether the measuring instrument tested can measure the construct that is intended to measure. A test that is assessed to be valid can be defined to have a credible and strong causal relationship between independent variable and dependent variable proposed, while also delimiting the unrelated variable. The tests are done in order to deal with possible validity threats, that is when the measuring instrument fails to cover enough of the construct, or the measuring instrument is found to have a selective loss in measuring a construct.

Table 5: Fornell-Larcker Criterion

	Adoption of IoT in Remote Audit (ARA)	Perceived Enjoyment (PE)	Perceived Ease of Use (PEU)	Perceived Usefulness (PU)
ARA	0.882			
PE	0.757	0.895		
PEU	0.656	0.577	0.851	
PU	0.685	0.657	0.790	0.858

The next test to be carried out is reliability. Reliability test is concerned with the extent to which any measuring instrument generates the same result consistently and repeatedly under the constant condition [41]. The test is measured by calculating Cronbach's Alpha and Composite Reliability, which both simultaneously need to be satisfied in order for the measurement to be considered reliable. A Cronbach's alpha and composite reliability is said to meet the acceptable level with a value between 0.60 to 0.70 or higher [37] (as cited in [42]). Table 6 below shows that the instruments used in this research have passed the reliability test, as the Cronbach's alpha and composite reliability values are all greater than 0.7.

Table 6: Cronbach's Alpha and Composite Reliability

Variable	**Cronbach's Alpha**	**Composite Reliability**
Adoption of IoT in Remote Audit (ARA)	0.856	0.913
Perceived Enjoyment (PE)	0.876	0.923
Perceived Ease of Use (PEU)	0.811	0.888
Perceived Usefulness (PU)	0.880	0.918

4.4 Coefficient Determination Test

After confirming that the construct measures are valid and reliable, the subsequent step involves assessing the structural model results (inner model). The coefficient of determination serves as a metric for the model's predictive power and the relationship between constructs [37]. As indicated in table 6, the adjusted R-Square value for the construct of adoption of IoT in remote audit is 0.66. Therefore, the perceived ease of use, perceived usefulness and perceived enjoyment of auditors are able to contribute as much as 66% for the adoption of IoT in remote audit, while the remaining 34% is influenced by factors beyond the scope of this study.

Table 7: Coefficient of Determination

	R-Square	**R-Square Adjusted**
Adoption of IoT in Remote Audit (ARA)	0.691	0.660

4.5 Q^2 Value

The blindfolding procedure is used to evaluate the predictive relevance of the path model, yielding Stone-Geisser's Q^2 value [43], [44]. Predictive relevance for the endogenous construct is affirmed when the Q^2 is larger than 0; conversely, values 0 or below indicates a lack of predictive relevance. In this research, the cross-validated redundancy method is utilized to measure the Q^2 of the endogenous construct. As presented in table 8, the Q^2 value of adoption of IoT in remote audit exceeds 0, signifying that the model exhibits predictive relevance regarding the endogenous latent variable of adoption of IoT in remote audit.

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Table 8: Q^2 Value

	Q^2 (=1-SSE/SSO)
Adoption of IoT in Remote Audit (ARA)	0.380

4.6 Hypothesis Testing

Following the execution of the PLS-SEM algorithm, the path coefficients are gained for structural model relationships that represent the hypothesized relationships among the constructs. The hypothesis testing is then conducted using a resampling bootstrapping method in SmartPLS to obtain standard error that calculates the t-values and *p* values for all path coefficients. When the t-statistic is larger than the t-table value, the alternative hypothesis is accepted, vice versa. When the *p* value is below 0.05, the alternative hypothesis is accepted, under the consideration that the significance level is 5%. This study uses the significance level of 5% and critical value for t-table of 1.96 in a two-tailed test. In other words, one variable can be considered to have a significant effect on the other variable, and that the null hypothesis should be rejected, if the *p* value is equal to or lower than 0.05, and the t-statistic is greater than 1.960.

Table 9: Hypothesis Testing

Hypothesis	Original Sample	T Statistics	P Values
H1: Perceived Ease of Use -> Adoption of IoT in Remote Audit	0.123	0.807	0.420
H2: Perceived Usefulness -> Adoption of IoT in Remote Audit	0.231	1.220	0.223
H3: Perceived Enjoyment -> Adoption of IoT in Remote Audit	0.414	3.506	0.000
H4: Audit Firm Size x Perceived Ease of Use -> Adoption of IoT in Remote Audit	0.071	0.274	0.784
H5: Audit Firm Size x Perceived Usefulness -> Adoption of IoT in Remote Audit	-0.209	0.764	0.445
H6: Audit Firm Size x Perceived Enjoyment -> Adoption of IoT in Remote Audit	0.102	0.507	0.612

Based on table 9, there are six hypotheses tested. The result of the test has shown that only the variable of the auditor's perceived enjoyment is able to provide a significant effect on the adoption of IoT-based remote audit, while the remains are not statistically significant. The t-statistic of the third hypothesis is 3.506 with a *p* value of 0.000. Meanwhile, the first hypothesis resulted t-statistic value of 0.807 and *p* value of 0.420; second hypothesis resulted t-statistic value of 1.220 and *p* value of 0.223; fourth hypothesis resulted t-statistic value of 0.274 and *p* value of 0.784; fifth hypothesis resulted t-statistic of 0.764 and *p* value of 0.445; and sixth hypothesis resulted t-statistic value of 0.507 and *p* value of 0.612. This explains that the presumed relationships between independent and dependent variables are insignificant. It can also be implied that the moderating variable, Audit Firm Size, does not have the capacity to influence or moderate the effect of Perceived Ease of Use, Perceived Usefulness, and Perceived Enjoyment on Adoption of IoT in Remote Audit.

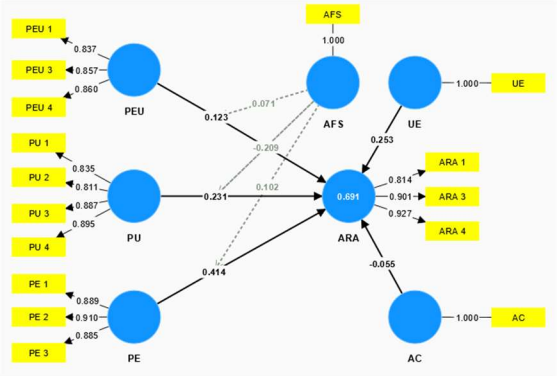

Figure 1: Research Path Coefficient

4.7 Discussion

The outcome of the hypothesis testing shows that perceived enjoyment has a significant effect on the adoption of IoT-based remote audit, meaning that users may adopt IoT-based remote audit if they consider IoT-based remote audit enjoyable. In addition, auditor's satisfaction in using IoT-based remote audit and the increase of productivity due to the work comfort in conducting IoT-based remote audit will also promote the adoption of that system. These findings align with the preliminary research conducted by [45] and [46],stating the crucial role of perceived enjoyment in influencing users' adoption of technology.

Perceived ease of use has no significant effect on the adoption of IoT-based remote audit, implying that users do not highly take into account the convenience aspect in adopting IoT-based remote audit. As stated by [47], this insignificance is due to the lack of boost on user's confidence about their ability, regardless of how easy a process is to adopt. The users may feel a lack of familiarity in a relatively new technology usage in their audit activity. This result supports a research by [48], stating that there is an insignificant effect of perceived ease of use on the intention to adopt IoT, but instead the intention is more driven by the performance progress and the improvement of product function. However, it is important to note that this specific study evaluates IoT-based products and appliances in regions outside of Indonesia.

Perceived usefulness has no significant effect on the adoption of IoT-based remote audit as users do not perceive that adopting IoT-based remote audit can improve the quality and efficiency of audit work to a degree. Moreover, the users do not extensively perceive how IoT-based remote audit benefits the audit process and how it can derive more advantages in using the system. This finding is supported by a previous study by [49], that the relationship between perceived usefulness and intention to adopt IoT is less significant than other factors such as perceived enjoyment due to an observed stronger effect of enjoyment.

Firm size is unable to moderate the effect of Perceived Ease of Use, Perceived Usefulness, and Perceived Enjoyment on Adoption of IoT in Remote Audit. This indicates that a user's perception of ease, usefulness, and enjoyment that affects the intention to adopt or accept a technology usage does not reckon whether the firm one is working at is one of the four largest accounting firms or the smaller accounting firms. Additionally, the external auditors among big four and non big four accounting firms cannot exactly be defined to have certain perceptions and personal capabilities. This is consistent with a research conducted by [50], which revealed that firm size has no relation with their adoption of some other technological systems, for instance ERP.

The support of IoT-based technology on the practice of remote audit may be constructed as development tools to yield more efficient and effective procedures. Even so, the result of this research found the adoption of IoT-based remote audit to be considered by the extent of its enjoyment, rather than convenience and usefulness. This implies that the field proven result of how IoT benefits remote audit works may not be coherent with how the user will acknowledge it, since perceived usefulness and ease of use hold insignificant effect.

To compare it with a similar conducted research, [35] resulted a rather different finding concerning the acceptance of IoT technology in finance and accounting work, which also includes auditing. The research showed a positive impact of perceived usefulness and perceived ease of use on the user's intention to use the IoT technology.

5. CONCLUSION AND SUGGESTION

This research shows that users or external auditors take enjoyment into consideration in adopting IoT-based remote audit, which also contributes new findings regarding the involvement of perceived enjoyment of users in adopting new technology in audit. Meanwhile, other factors such as convenience and advantages to the audit process may play a minor role on determining the intention to adopt. Another valuable finding is that the size of a public accounting firm is insignificant in moderating the effect of auditor's adoption of IoT-based remote audit. This finding does not correspond with the theory used in proposing the three hypotheses in regards to the firm size moderation. The finding instead shows how one's perception regarding the intention to adopt IoT-based remote audit will not be affected by the amount of facilitated budget and/or technology adoption that a firm offers. Through this research result, it can be discovered and analyzed a different view on why firm size as moderator, convenience, and usefulness are insignificant in affecting the adoption of IoT-based remote audit, in the following.

A firm may provide a more upgraded audit process - in this case an audit process that incorporates IoT in it - whilst another firm does not. Notwithstanding this condition, the factors that were used in this research are personalized perceptions in their relation to whether or not the users are willing to fully adopt IoT-based remote audit in the

foreseeable future, hence the perception can be varied based on the extent to which users find an audit process useful, easy, and enjoyable. In addition, the insignificant effect of perceived ease of use and perceived usefulness may be caused by possible risks that can arise due to the IoT itself. The constant advancement of IoT brings better assistance and facility in the completion of audit works, while also generating more risks that require treatments to meet its standards and protocols.

Based on these implications, the suggestions for future research are as follows. First, we suggest for further researchers who have an intention in conducting a similar research about technology adoption to make use of more factors that have not been used in this research, such as other psychological and demographic factors, for the reason that the test result seemed to be showing a value that indicates the existence of many other external parameters that can directly or indirectly affect the dependent variable. Second, due to TAM limitations of only incorporating how users perceive, think, and feel; studies with other modified models and various extensions are suggested to further understand users' technology acceptance to fill in the gaps of the model in this research, as it may expose a better insight out of the complexity. Third, the sample size limitations of this study poses an issue which potentially affects the reliability of the findings, hence the conclusions in this study may not accurately reflect the population at large. Future research with larger sample sizes may be needed to confirm these findings.

Further investigation is also suggested to enhance the awareness of the function and advantages of IoT-based remote audit, and to gain a deeper comprehension of its adoption key drivers. Thus, providing auditors with empirical insights required to make decisions on adopting such technology to help support their audit work.

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