

AUDIT QUALITY IN THE BLOCKCHAIN ERA: AN INVESTIGATION OF THE IMPACT OF INDIVIDUAL AND ORGANIZATIONAL FACTORS

I Nyoman Agus Wijaya¹; Sinta Setiana²; Finna Rusyana³
Fakultas Bisnis Universitas Kristen Maranatha, Bandung^{1,2,3}
Email : finnaagus57@gmail.com

ABSTRACT

This study aims to identifying effect of individual and organizational factors to audit quality in the blockchain technology era. Analysis of data uses multiple linear regression. Unit of analysis in this research are auditor in Indonesia. In order to obtain primary data, we use questionnaires. The result of this research is intended to identifying the effect of individual and organizational factors to enhance Audit Quality In The Blockchain Era. We find that the business process knowledge of auditors have positively influence to the audit quality, IT Knowledge of auditors have robust influence to the audit quality, and keep to update accounting standards knowledge.

Keywords : Individual Factors; Organizational Factors; Audit Quality

ABSTRAK

Penelitian ini bertujuan untuk mengidentifikasi pengaruh faktor individual dan organisasional terhadap kualitas audit. Analisis data menggunakan analisis regresi linear berganda. Unit analisis yang digunakan dalam penelitian ini adalah auditor yang bekerja di Indonesia. Data yang kami peroleh menggunakan kuesioner yang disebarkan ke auditor yang bekerja di Indonesia. Hasil dari penelitian ini menemukan bahwa pengetahuan auditor terhadap proses bisnis memiliki pengaruh positif terhadap kualitas audit, pengetahuan teknologi informasi auditor mampu memperkuat pengaruhnya terhadap kualitas audit, dan demikian juga pengetahuan auditor terhadap standar akuntansi keuangan yang berlaku di Indonesia mampu untuk memperkuat kualitas audit seorang auditor.

Kata kunci : Faktor Individual; Faktor Organisasional; Kualitas Audit

INTRODUCTION

Research Background

Definitions of Blockchain available in many literature. One of that categorize blockchain as the visibility of underlying ledger, ease of access right by private or public, get extent of data rapidly (e.g., Coyne and McMickle 2017; Dai and Vasarhelyi 2017; Yermack, 2017; Tan and Low, 2017; O'Leary, 2018). Blockchain make only authorized users in the business can get the access to the ledger of historic transactions (private blockchain) and to input or verifying transactions and validating new blocks (Yermarck, 2017; Coyne and McMickle, 2017). Applying IT governance in organization is needed because the structure of business way has changed. Many

business offer their product real time and and make payment use cashless (bank transfer or other virtual payment). That make people contactless to trade their goods and services. The use of blockchain also possible to manage their business, analyses their business performance and make decision very easily dan rapidly. They can access real time in anyway and everywhere with their gadgets. No exception for services business like accounting services or assurance services. Auditors need to enhance their knowledge about data analytics and blockchain. Further, auditors should understand the environmental of IT Governance (financial, personnel, or computational), and how effective IT that their implemented to obtain proper evidence across the blockchain. The proper of evidence can make higher their quality of assurance.

Blockchain is a sophisticated technology that have advantage to the audit profession such as obtaining client data very easily and quickly and the potential for integrated auditing (Diedrich, 2016; Dai and Vasarhelyi, 2017; Zhang, Pei, and Vasarhelyi, 2017; and Sheldon, 2019). Professional accountant must to realize and prepared to gain capability over blockchains as a sophisticated information technology, because blockchain has potential impact to business and society (D. Tapscott and A. Tapscott, 2016; Casey and Vigna, 2018).

Audit Quality quit relates to professional skepticism. Auditor need to enhance their audit quality with maintain their questioning mind and critical thinking to assess audit evidence and ultimately they can increase their assurance performance. Professional skepticism can determine the quantity of audit sample. Other study find that more auditor increase their professional skepticism, the more audit evidence they may require to assess (Nelson, 2009). Professional Skepticism is still be global issue in the accounting profession and regulators (Brazel et al, 2016), lack of professional skepticism can cause decrease in audit quality. Superiors Auditor should ensure their subordinates in the engagement to put professional skepticism in high level. Lower of skepticism will be cause of lower audit quality, infringement of code of ethics and auditors inability to find fraud. Most of auditor professional agree that enhancing professional skepticism are needed. In the audit context, professional auditor need to know the effectively way to increase their professional skepticism. This study trying to identify factor determined professional skepticism. Most of researcher focus their study on specific traits that may effect insufficient skepticism (e.g., Hurtt, Eining, and

Plumlee, 2011; Hurtt, Eining, and Plumlee, 2013). Skepticism and time limitations impact on audit quality to be produced. Public Company Accounting Oversight Board (PCAOB) Auditing Standard 2101 suggest auditor to consider the nature, timing, and extent of scope to perform the audit. Time deadline from client will be obligate for auditor to give opinion on the annual financial statements. The punctuality of audit opinion can be determinants audit quality (Francis and Michas, 2013). The important of client deadline concentration as an individual factor, such as individual client deadline time pressure will increase the audit quality and quality control of office audit (Czerney et al, 2018).

This research project that focuses on the relationship between audit-specific technologies, such as enterprise resource planning (ERP) systems, and audit quality performance. The research also aims to identify factors that influence the use of information technology (IT) in business process audit activities. The efficacy of specific audit tools and the activities required to audit particular applications or technologies are being investigated for their impact on audit quality and professional skepticism.

The research is centered around three key auditor factors:

- 1.IT Knowledge (ITK):** This refers to the extent of an auditor's understanding and familiarity with information technology. Auditors with higher IT knowledge are likely to be more comfortable and efficient when dealing with IT-related aspects of audits.
- 2.Business Process Knowledge (BPK):** This factor involves the auditor's understanding of the business processes within the organization being audited. Strong business process knowledge enables auditors to assess the accuracy and effectiveness of controls and procedures in place.
- 3.Professional Skepticism (PS):** Professional skepticism is a crucial trait for auditors. It involves the ability to question, critically assess, and validate information, ensuring that the audit process remains objective and thorough.
- 4.Accounting Standards Knowledge (ASK):** This factor relates to the auditor's comprehension of relevant accounting standards and regulations. A solid understanding of accounting standards is essential for conducting audits that adhere to industry guidelines.

The research aims to explore how these individual auditor factors interact with the use of audit-specific technologies and their impact on audit quality. By examining

the relationships between IT knowledge, business process knowledge, professional skepticism, accounting standards knowledge, and the effectiveness of audit tools and techniques, the study could shed light on ways to enhance audit practices and outcomes.

The references our provided, such as Braun and Davis (2003), Brody and Kearns (2009), and Boritz and No (2009), likely contain insights and findings that contribute to the overall understanding of how auditor factors and audit-specific technologies intersect in influencing audit quality and professional skepticism.

This study focused on “Audit Quality in The Blockchain Era: An Investigation of The Impact of Individual and Organizational Factors”.

Research Objectives

This study try to indentify Audit Quality in The Blockchain Era: An Investigation of The Impact of Individual and Organizational Factors.

Usefulness of Research

This research gives teoritically and paractically contribution as follows:

1. Teoritically Contribution

This study gives contribute in academics as conceptual in audit quality in the Blockchain era.

2. Practically Contribution

This study give practition hot to enhanced audit quality in the blockchain era and this usefulness to auditor.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Blockchain Technology

Technology had changes rapidly and effected to the business. Business can produce the information rapidly and real time to the user. Now technology has growth to big data and blockchain technology. Big data and blockchain technology change the business way provide the information to the manager and other users transparently and real time. In the other hand, blockchain technology allow the business to use cryptocurrency as the payment method and receiving they money from suppliers, customers, related-party and others. Big data and blockchain technology changed the analyst way to review information that provide by that data and produce an information as analytics result. Blockchain is a technology that offers new way to record, process and communicated (Brandon 2016; Gross et al, 2017; Tapscott and Tapscott, 2017, Liu,

et al, 2019) and store financial or nonfinancial information in the data structure (Simoyama et al, 2017). These transaction groups are called blocks and are ordered on the chain by transaction time. Many client changed the transaction process into more complex and integrated with technology such as Internet of Things, money transaction using cryptographic and they work with private key that encrypted, transaction process in real-time, and make sophisticated ledger entries in real-time accounting transaction process (Cukier and Mayer-Schoenberger, 2013; Appelbaum, Kogan, and Vasarhelyi, 2017).

Big data and blockchain technology required auditor to conduct the analytical procedures and audit substantive procedures compliance with the audit regulation and ethics, regardless of complexity of the IT (Appelbaum, Kogan, and Vasarhelyi, 2017). Furthermore, auditor must familiarity and get best knowledge of technology that integrated with client accounting process. Hardware and software that client used may be very different depends on client business process and how much client investing they money to the technology. However, auditor must realize that the audit process has changed, the issues may be challenging auditor to create the strategy how can they gathered audit evidence, how can they used the data analytics as audit evidence and how much data analytics and blockchain technology support they judgement. (Appelbaum, Kogan, and Vasarhelyi 2017).

Professional Scepticism

Professional Skepticism is fundamental key to enhancing quality audits. Auditors already encouraged to maintain they professional skepticism when conducting by regulators (Nelson, 2009). Regulators and standard setters note that many auditors have insufficient skepticism and less quality control from audit firms'. They ignore skepticism on audit engagements so that they reducing audit evidence and fail to detect misstatement. Audit Firms need to aware about quality control especially professional skepticism. Professional skepticism is still being major focus in academic literature and audit practice. IAESB expected Audit Firms' to improve the appropriate auditors' professional skepticism, ultimately improving audit quality (Li, 2022). Auditors' expected to improve audit efficiency ultimately audit quality with the use of audit data analytics (Anderson et al., 2020). The use of audit data analytical enable auditors to gain appropriate evidence and more extensive audit evidence when clients' business using

modern technology in order to record their business transaction. Therefore, auditors can obtain more appropriate and sufficient audit evidence and they can identify material misstatements shortly.

Antecedents to Information Technology Audit Quality

Some prior research studies related to the factors that impact the IT audit process and process quality. Havelka and Merhout (2013) has developed a grounded theory for the internal IT audit process. Their research success to identifying a comprehensive set of items that potentially impact IT audit quality (ITAQ). They used structured group processes and prior literature analysis. In the other hand, any studies such as, Stoel et al. (2012) validated and evaluated the items from Havelka and Merhout (2013) and other prior research through a survey and conducted a factor analysis to identify higher-level factors. They are success identified six factors most influential and relevant to IT audit performance individually. Three factors were related to individual traits of IT audit such as accounting knowledge, business process knowledge, and IT and control knowledge). While the other three factors were related to organizational characteristics such as independence, auditor-client relationship, and audit planning).

Abdolmohammadi and Boss (2010) examined factors influencing the proportion of time spent on IT audits by the internal audit function. They found both individual and organizational factors to be significant influencers. Factors such as CISA certification, audit function age, training, and the number of organizational employees showed a positive association with the proportion of internal IT audit work performed. These studies collectively shed light on the factors that affect the quality and effectiveness of IT audits, considering both individual traits of IT audit professionals and organizational characteristics. The findings may be valuable for organizations looking to improve their IT audit processes and ensure better IT audit quality.

Business Process Knowledge

The cited studies highlight the importance of obtaining business process knowledge, particularly in the context of auditing and system reliability assessment. Here are some key takeaways from the mentioned studies:

- 1. Business Process Modeling for Risk Assessment:** Carnaghan (2006) explored the use of various business process modeling techniques to assess risk during process-level audits. By documenting the software supporting business processes, auditors can

better understand the potential risks associated with those processes. This knowledge aids in identifying potential weaknesses, inefficiencies, or vulnerabilities in the processes, enabling auditors to make informed risk assessments.

2. **Process-Focused Knowledge Acquisition:** O'Donnell (2003) investigated how knowledge acquisition with a process-focused approach influences auditor judgments of system reliability. By understanding the underlying business processes, auditors can acquire task-specific knowledge that directly affects their cognitive processes during the audit. Having a deep comprehension of the processes allows auditors to better evaluate the reliability of the systems being audited, as they can more accurately assess the impact of potential issues on overall system performance.
3. **Business Process-Focused Presentations for Risk Judgments:** O'Donnell and Schultz (2003) compared the use of business process-focused presentations with transaction cycle-focused presentations in the context of auditors' risk judgments. They found that business process-focused presentations led to a more accurate assessment of risk conditions. When auditors are presented with information in the context of business processes, they are better able to identify potential risks and make more informed judgments.
4. **Changing Role of IT Auditors:** Majdalawieh and Zaghloul (2009) noted a shift in the focus of IT auditors from purely application-focused work towards more management-oriented aspects of systems. This indicates that IT auditors need to possess a broader understanding of business processes and how they interconnect with information systems. This shift is likely driven by the increasing complexity of IT systems and the need for auditors to understand the broader implications of technology on business operations.

In summary, business process knowledge is critical for auditors and IT professionals. Understanding business processes allows auditors to assess risks more accurately (Angelia, Ginting, Hutagalung and K. Hayati, 2020), make informed judgments about system reliability, and better align IT auditing with management-oriented aspects of systems. It also aids in identifying potential vulnerabilities and inefficiencies in processes, which is crucial for ensuring the overall efficiency and effectiveness of an organization's operations.

IT Knowledge and Skills

Many research show that Audit Data Analytics (ADA) bring auditors' challenges and advantages in audit process to obtain audit evidence shortly and enhancing the professional skepticism. Challenges in Using ADA for Auditors:

1. Obtaining Audit Evidence Shortly: The use of ADA might present challenges in obtaining audit evidence quickly. This could be due to the complexity of data analysis or the need for specialized skills to interpret the results.
2. Enhancing Professional Skepticism: While ADA has the potential to enhance auditors' application of professional skepticism, it could also pose challenges in terms of interpreting the analysis results critically and avoiding biases.

Benefits of Using ADA for Auditors:

1. Efficiency: ADA can potentially streamline the audit process by automating certain tasks, making data analysis more efficient and less time-consuming.
2. Enhanced Professional Skepticism: Despite the challenges mentioned earlier, ADA can also enhance auditors' professional skepticism by allowing them to uncover patterns, anomalies, and potential issues in the data.

Improved Detection of Material Misstatements: ADA's analytical capabilities can help auditors identify potential material misstatements that might have been overlooked through traditional audit methods.

The references our provided, such as Appelbaum et al. (2017), Rose et al. (2017), Barr-Pulliam et al. (2020), Holmstrom (2020), Austin et al. (2021), Commerford et al. (2021), and Holt and Loraas (2021), likely delve deeper into these challenges and benefits, providing insights into the complexities and potential of ADA in auditing practices. Understanding the various modes of ADA, as mentioned by Appelbaum, Kogan, and Vasarhelyi (2017), is crucial for auditors to effectively integrate ADA into their processes. These modes likely outline different ways in which ADA can be applied, such as predictive analytics, trend analysis, anomaly detection, and more.

In summary, the use of ADA in auditing has the potential to enhance efficiency, improve detection of material misstatements, and increase auditors' professional skepticism. However, challenges related to data analysis complexity and interpretation must also be addressed for the successful implementation of ADA in the field of auditing.

Using audit data analytics, auditors' can get alert to the potential material misstatement when they conducting the audit engagement. It is important to learn about possibly obtain material misstatement in the audit evidence with audit data analytics or whether auditor can really make higher-quality judgements in complex business transaction. (Griffith et al., 2015).

Organizational Factors

It seems like you have provided an overview of various IT audit literature that covers organizational and operational issues. The research in this area explores different aspects of IT auditing, including the business process and systems environment, how organizations interact with other entities, characteristics of the organization, organization of the audit function, client interactions, audit activities, timing of IT audit procedures, and how IT is utilized to support or perform IT audit activities.

Some key points from the literature mentioned are:

- 1. Continuous Auditing and Monitoring:** The studies emphasize the increasing use of computer-based accounting systems and stress the importance of systems-focused audits. They investigate issues such as audit frequency, data gathering, and substantive testing in automated environments.
- 2. Internal and External Audit Perspectives:** The literature examines characteristics of the organizational unit and interactions with clients and the audited organization, both from the perspective of internal audit (the audit function within the organization) and external audit (independent auditors conducting financial audits).
- 3. Independence in IT Auditing:** The Sarbanes-Oxley Act highlighted the importance of independence in auditing, especially in the context of external financial audits.
- 4. Group Support Systems (GSS) and IT Auditing:** Some research investigates the impact of group support systems on systems-related auditing.
- 5. IT Risk and Audit Planning:** Studies explore factors associated with IT risk in organizations and how this affects audit planning by external auditors.

Overall, the literature mentioned covers a wide range of topics related to IT auditing, highlighting its significance in the current business landscape, where technology plays a crucial role in organizational processes and systems. By considering organizational and operational issues, IT auditors can better understand the challenges

and opportunities presented by technology, thereby enhancing their effectiveness in assessing the controls and risks associated with IT systems.

Based on this prior research, we focus on three individual auditor factors (IT knowledge [ITK], business process knowledge [BPK], and accounting standards knowledge [ASK]) and three organizational factors (audit planning and methods [APM], the professional scepticism [PS], and the level of independence [IND] of the audit team)

This study try to identifying Audit Quality in The Blockchain Era: An Investigation of The Impact of Individual and Organizational Factors as describe picture 2.1 as follows:

Hypothesis Development

Based on phenomena, this research develop the hypothesis as follows:

H1: Business Process Knowledge have positively effect to audit quality in the blockchain era.

H2: IT Knowledge have positively effect to audit quality in the blockchain era.

H3: Accounting Standards Knowledge have positively effect to audit quality in the blockchain era.

RESEARCH METHODE

Sample Selection

We obtain a sample from auditor in Indonesia that we collect with snowball sampling and propovise judgement sampling. Criterion that we develop in propovise judgement sampling as follows:

- 1) Auditor that listed in P2PK
- 2) Auditor that have two years or more experience in auditing

Research Method

We used Multiple Linear Regression to test Hypothesis.

Metode Pengujian Data

Before we undertake the regression, we use Normality, Multicollinearity, heteroscedasticity and Autocorrelation Test to our data.

Normality Test

We use normality test to get information about residual has nomal distribution. To get that information we use Asymtotic Significance with criterion as follows:

- a) If probability $> 0,05$ then population has normally distribution.

b) If probability $< 0,05$ then population has no normally distribution.

Multicollinearity Test

We undertake multicollinearity test to get information about correlation inter variable independent in our regression model. We investigate multicollinearity use VIF (Variable Inflation Factor) dan tolerance value with criterion as follows:

a) If tolerance value > 10 percent and VIF value < 10 , then there is no multicollinearity inter independent variable in our regression model.

b) If tolerance value < 10 percent and VIF value > 10 , then there is multicollinearity inter independent variable in our regression model.

Heteroscedasticity Test

We undertake heteroscedasticity test to get information about dissimilarity of variance from residual inter obeservation data. We use glesjer test. If there is heteroscedasticity than sig value $> \alpha$ and vice versa.

Autocorrelation Test

We investigate that there is positive or negative correlation inter data in our independent variable. To get this information we use cross data section, and use Runs Test to know this information. The criterion of Runs Test is if asymp. Sig. value $> 0,05$, then there is no autocorrelation symptom in our regression model and if asymp. Sig. value $< 0,05$, then there is no autocorrelation symptom in our regression model.

RESULT AND DISCUSSION

Statistic Description

Respondents were collected in this study came from 16 public accountant firms consisting of 4 public accountant firms are included in the big 4 and 12 public accountant firms included in non big 4. For public accountant firms non big 4 came from 4 public accountant firm located in Indonesia. The big 4 public accountant firms according to the website www.big4.com consist PricewaterhouseCoopers, Deloitte Touche Tohmatsu, Ernst & Young and KPMG. Questionnaires were collected as much as 231. 186 questionnaires collected through snowball sampling technique and 45 questionnaires through paperbased techniques. However, 15 questionnaires were not returned, and as much as 23 questionnaire respondents who never audit in the environmental organization based on computerized information system, so that the questionnaire can be used for this research is as much as 193 questionnaires. Of 193

respondents, 44% were male respondents and 56% were female respondents. The majority of respondents had 24 years of age by 48 respondents, or approximately 24.9%. Respondents who served as junior staff auditor by 51.8%, while 48.2% is a senior auditor. The majority of respondents who have experience of auditing in a computerized environment the company is for 1 year or by 20.2%.

Assesment of Validity and Reliability Test

According to table 4.1 below, all item on the question of variable audit quality, professional scepticism, time budget pressure and blockchain effect has r count value is greater than r table (0.1413). It shows that all the items on the question of variable audit quality, business process knowledge, IT knowledge and accounting standards knowledge is valid.

According to table 4.2 below, the variable audit quality, business process knowledge, IT knowledge and accounting standards knowledge each have a Cronbach's Alpha value of 92.8%, 98.8%, 99.8%, 98.5% and 82.5% of which these values are in very reliable criterion level of reliability by Sekaran and Bougie (2009). Under these conditions, the variable audit quality, business process knowledge, IT knowledge and accounting standards knowledge can be summed up very reliable.

According to the histogram graph and normal probability plots above, it can be concluded that the histogram graph gives a normal distribution pattern. While in the normal probability plot graphs dots spread around the diagonal line and follow the direction of a diagonal spread.

H₁: *Business Process Knowledge have positively effect to audit quality in the blockchain era.*

H₂: *IT Knowledge have positively effect to audit quality in the blockchain era.*

H₃: *Accounting Standards Knowledge have positively effect to audit quality in the blockchain era.*

Hypotheses Test Results

Test Results of Hypotheses 1: Business Process Knowledge have Positively Effect to Audit Quality.

According to the table 4.5, coefficient of regression toward the effect of business process knowledge to audit quality shows a positive direction with the value of the interaction coefficient of 0.357 and a significant level of 0.000. The significant levels

are well below 0.05, so based on the acceptance criteria can be concluded that the H₀ hypothesis is rejected. This suggests that business process knowledge from auditor have positively influence to the audit quality. Results of testing hypothesis 1 is support that as auditors exercise make , they may require more evidence to justify their audit opinions (Nelson 2009). Auditors should “not be satisfied with less-than persuasive audit evidence” (IAASB 2004), and superiors on the engagement team should ensure that their subordinates exercise an appropriate level of business process knowledge.

The Results of Hypotheses 2: IT Knowledge have positively effect to Audit Quality in the Blockchain Era.

According to the table 4.6, coefficient of regression toward the effect of IT Knowledge to audit quality in the blockchain era shows a positive direction with the value of the interaction coefficient of 0.333 and a significant level of 0.000. The significant levels are well below 0.05, so based on the acceptance criteria can be concluded that the hypothesis H₀ is rejected. This suggests that IT Knowledge by auditor must be lifting to achieve audit quality. Results of testing hypothesis 2 is support the research conducted by A blockchain is essentially a public ledger, where groups of transactions or events are recorded and stored in a chain-like data structure (Simoyama, Grigg, Bueno, and Oliveira 2017). Blockchain Era has changed the auditor technique in audit field work and professional skepticism auditor can be more accurate and ultimately can be lifting the audit quality.

The Results of Hypotheses 3: Accounting Standards Knowledge have positively effect to Audit Quality in the Blockchain Era.

Accounting standards knowledge have increase significantly the audit quality as shown below : Table 4.7.

CONCLUSION

According to the research finding are described, it can be concluded that the business process knowledge of auditors have positively influence to the audit quality, IT Knowledge of auditors have robust influence to the audit quality, and keep to update accounting standards knowledge. this finding conclude that the auditor must be increase the business process knowledge, IT knowledge and Accounting Standards knowledge in the blockchain era to increase the audit quality.

Research Implication

The results of this research may contribute to the practitioners who work as auditors, especially the partner or managing partner in order to require that the individual auditor (junior and senior staff auditor) to increase the audit quality.

Research Limitation

This research respondents only 193 as auditor who works in Jakarta and Bandung, where the level of professional skepticism and time budget pressure in these areas may be different from other regions.

Recommendation

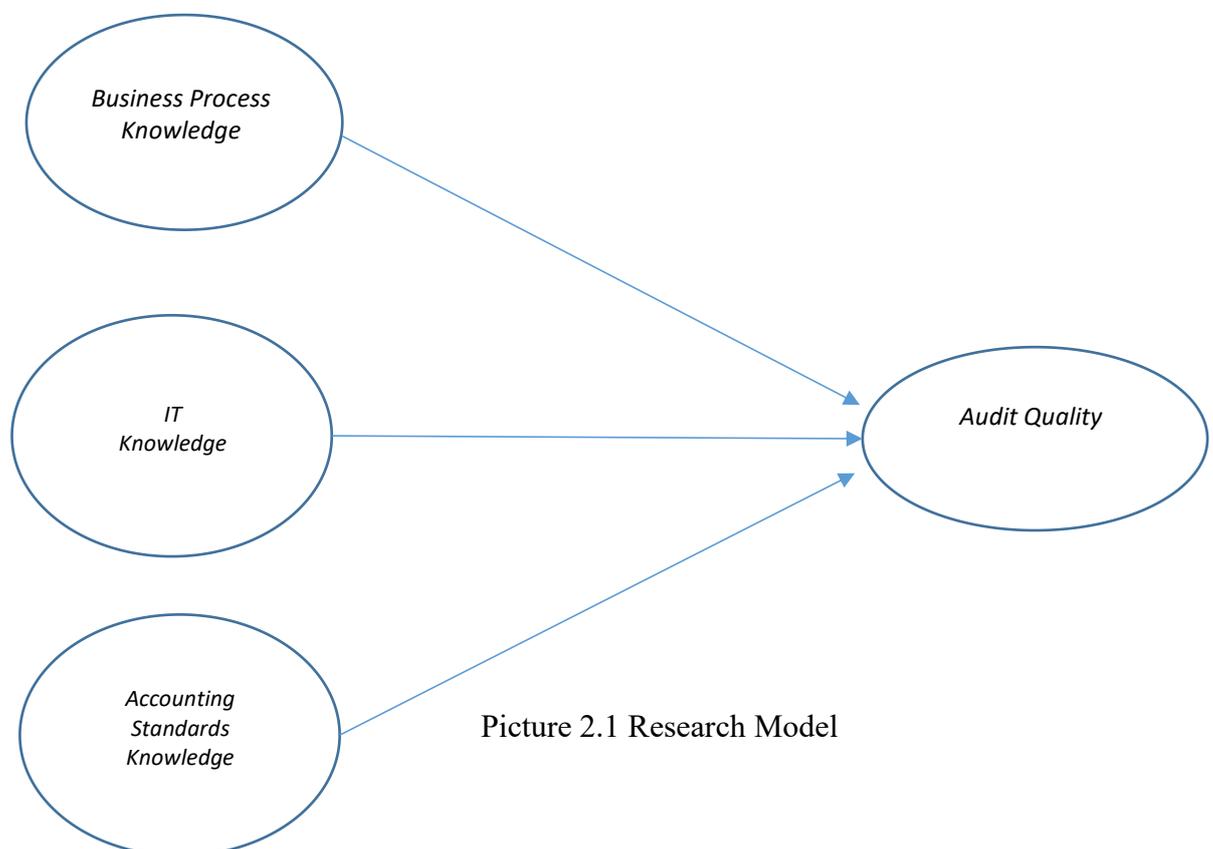
Further research can take a broader sample of the auditor not only in Jakarta and Bandung.

REFERENCE

- Angelia, M., Ginting, D., Hutagalung, D., & Hayati, K. (2020). THE EFFECT OF KNOWLEDGE, ACCOUNTABILITY, AND PROFESSIONALISM ON THE QUALITY OF AUDITOR'S WORK (BPKP) NORTH SUMATRA. *Jurnal Ilmiah Manajemen, Ekonomi, & Akuntansi (MEA)*, 4(3), 1205-1221. <https://doi.org/10.31955/mea.v4i3.547>
- Brazel, J. F., S. B. Jackson, T. J. Schaefer, and B. W. Stewart. 2016. The outcome effect and professional skepticism. *The Accounting Review* 91 (6): 1577–1599.
- Guilbault, R. L., F. B. Bryant, J. H. Brockway, and E. J. Posavac. 2004. A meta-analysis of research on hindsight bias. *Basic and Applied Social Psychology* 26: 103–117.
- Hurt, R. K., H. Brown-Liburd, C. E. Early, and G. Krishnamoorthy. 2013. Research on auditor professional skepticism: Literature synthesis and opportunities for future research. *Auditing: A Journal of Practice & Theory* 32 (Supplement): 45-97.
- International Federation of Accountants (IFAC). 2015. Invitation to comment: Enhancing audit quality in the public interest: A focus on professional skepticism, quality control and group audits. New York, NY: IFAC.
- Lindsay, R. M. and A. S. C. Ehrenberg. 1993. The design of replicated studies. *The American Statistician* 47 (3): 217–228.
- Lipe, M. G. 1993. Analyzing the variance investigation decision: The effects of outcomes, mental accounting, and framing. *The Accounting Review* 68 (4): 748–764.
- Nelson, M. 2009. A model and literature review of professional skepticism in auditing. *Auditing: A Journal of Practice & Theory* 28 (2): 1–34.
- Public Company Accounting Oversight Board (PCAOB). 2012. Maintaining and applying professional skepticism in audits. Staff Audit Practice Alert No. 10 (SAPA 10). Washington, D.C.: PCAOB.
- . 2018. Due professional care in the performance of work. AS 1015. Washington, D.C.: PCAOB.
- Salterio, S. E. 2014. We don't replicate accounting research-Or do we? *Contemporary Accounting Research* 31 (4): 1134–1142.
- Tan, H.-T., and M. G. Lipe. 1997. Outcome effects: The impact of decision process and outcome controllability. *Journal of Behavioral Decision Making* 10 (4): 315–325.
- Wu, D.-A., S. Shimojo, S. W. Wang, and C. F. Camerer. 2012. Shared visual attention reduces hindsight bias. *Psychological Science* 23 (12): 1524–1533.
- Brazel, J. F., S. B. Jackson, T. J. Schaefer, and B. W. Stewart. 2016. The outcome effect and professional skepticism. *The Accounting Review* 91 (6): 1577–1599.

- Guilbault, R. L., F. B. Bryant, J. H. Brockway, and E. J. Posavac. 2004. A meta-analysis of research on hindsight bias. *Basic and Applied Social Psychology* 26: 103–117.
- Hurt, R. K., H. Brown-Libur, C. E. Early, and G. Krishnamoorthy. 2013. Research on auditor professional skepticism: Literature synthesis and opportunities for future research. *Auditing: A Journal of Practice & Theory* 32 (Supplement): 45-97.
- International Federation of Accountants (IFAC). 2015. Invitation to comment: Enhancing audit quality in the public interest: A focus on professional skepticism, quality control and group audits. New York, NY: IFAC.
- Lindsay, R. M. and A. S. C. Ehrenberg. 1993. The design of replicated studies. *The American Statistician* 47 (3): 217–228.
- Lipe, M. G. 1993. Analyzing the variance investigation decision: The effects of outcomes, mental accounting, and framing. *The Accounting Review* 68 (4): 748–764.
- Nelson, M. 2009. A model and literature review of professional skepticism in auditing. *Auditing: A Journal of Practice & Theory* 28 (2): 1–34.
- Public Company Accounting Oversight Board (PCAOB). 2012. Maintaining and applying professional skepticism in audits. Staff Audit Practice Alert No. 10 (SAPA 10). Washington, D.C.: PCAOB.
- . 2018. Due professional care in the performance of work. AS 1015. Washington, D.C.: PCAOB.
- Salterio, S. E. 2014. We don't replicate accounting research-Or do we? *Contemporary Accounting Research* 31 (4): 1134–1142.
- Tan, H.-T., and M. G. Lipe. 1997. Outcome effects: The impact of decision process and outcome controllability. *Journal of Behavioral Decision Making* 10 (4): 315–325.
- Wu, D.-A., S. Shimojo, S. W. Wang, and C. F. Camerer. 2012. Shared visual attention reduces hindsight bias. *Psychological Science* 23 (12): 1524–1533.

PICTURE, GRAPHIC AND TABLE



Picture 2.1 Research Model

Table 4.1. Assesment of Validity Test

Audit Quality			
Instrument Code	r count	r table	Validity
KA1	0.388	0.1413	valid
KA2	0.672	0.1413	valid
KA3	0.521	0.1413	valid
KA4	0.748	0.1413	valid
KA5	0.748	0.1413	valid
KA6	0.520	0.1413	valid
KA7	0.469	0.1413	valid
KA8	0.593	0.1413	valid
KA9	0.611	0.1413	valid
KA10	0.566	0.1413	valid
KA11	0.668	0.1413	valid
KA12	0.748	0.1413	valid
KA13	0.557	0.1413	valid
KA14	0.549	0.1413	valid
KA15	0.481	0.1413	valid
KA16	0.576	0.1413	valid
KA17	0.588	0.1413	valid
KA18	0.594	0.1413	valid
KA19	0.748	0.1413	valid
KA20	0.672	0.1413	valid
Business Process Knowledge			
Instrument Code	r count	r table	Validity
BPK1	0.964	0.1413	valid
BPK2	0.952	0.1413	valid
BPK3	0.925	0.1413	valid
BPK4	0.939	0.1413	valid
BPK5	0.917	0.1413	valid
BPK6	0.943	0.1413	valid
BPK7	0.838	0.1413	valid
BPK8	0.944	0.1413	valid
BPK9	0.954	0.1413	valid
BPK10	0.946	0.1413	valid
BPK11	0.951	0.1413	valid
Accounting Standards Knowledge			
Instrument Code	r count	r table	Validity
ASK1	0.995	0.1413	valid
ASK2	0.992	0.1413	valid
ASK3	0.992	0.1413	valid

ASK4	0.998	0.1413	valid
IT Knowledge			
Instrument Code	r count	r table	Validity
ITK1	0.509	0.1413	valid
ITK2	0.524	0.1413	valid
ITK3	0.461	0.1413	valid
ITK4	0.546	0.1413	valid
ITK5	0.551	0.1413	valid
ITK6	0.598	0.1413	valid
ITK7	0.625	0.1413	valid
ITK8	0.543	0.1413	valid

Source: Primary Data (processed, 2022)

Table 4.2. Assesment of Reliability Test

Variable	Cronbach's Alpha Based on Standardized Items	Reliability
Audit Quality	0.928	Very Reliable
Business Process Knowledge	0.988	Very Reliable
Accounting Standards Knowledge	0.998	Very Reliable
IT knowledge	0.825	Very Reliable

Source: Primary Data (processed, 2022)

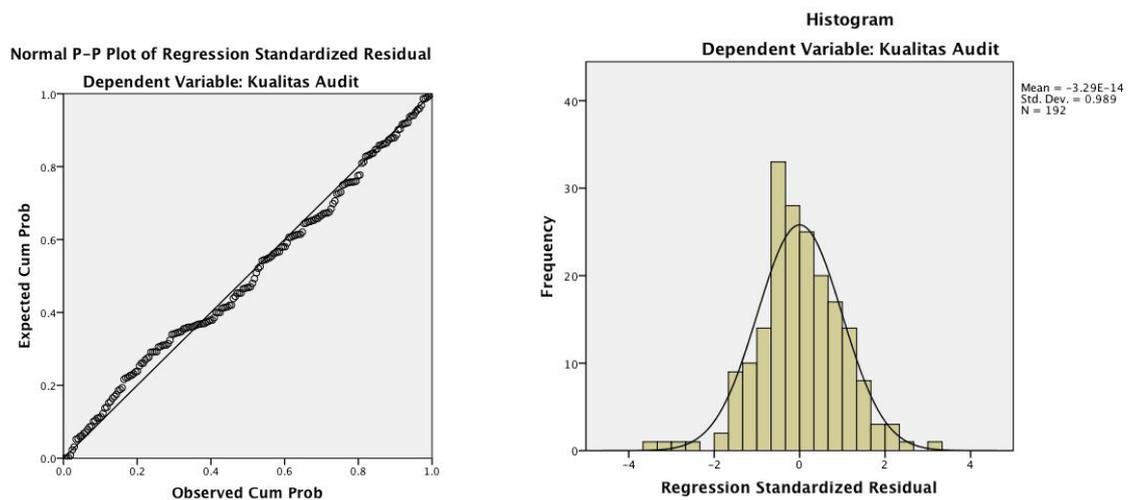


Figure 4.1. Assesment of Normality Test

Table 4.5. The Results of Hypothesis 1

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.733	0.023		205.426	0.000
	Business Process Knowledge	-1.695	0.056	-5.425	-30.407	0.000

a. Dependent Variable: Audit Quality

Table 4.6. The Results of Hypothesis 2

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.726	0.022		214.257	0.000
	IT Knowledge	0.333	0.010	5.594	32.008	0.000

a. Dependent Variable: Audit Quality

Table 4.7. The Results of Hypothesis 3

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.749	0.022		212.659	0.000
	Accounting Standards Knowledge	0.370	0.012	6.125	32.035	0.000

a. Dependent Variable: Audit Quality