

The Effect of Applying Blockchain to The Accounting and Auditing

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ABSTRACT

Blockchain provides an extreme brand-brand new method towards document, procedure, as well as keep monetary info and deals. It has actually the prospective towards essentially alter the yard of the bookkeeping occupation as well as improve business community. Within this particular short post, our team talk about the ramifications of Blockchain in the business of bookkeeping as well as bookkeeping. Using a blockchain can help provide clarity on asset ownership and the existence of liabilities, and can dramatically increase efficiency for an accountant. Blockchain offers the potential for accounting and auditing. Blockchain helps auditors to track an account. Blockchain technology for auditors has conducted audit traces that they follow. For an accountant, Blockchain helps reconcile, trace the ownership of assets and authenticate transactions through features found in the technology. Blockchain can be used as a source of verification for data reported by accountants to users of the information generated by accounting.

Keywords: Blockchain, Internal Control, Accounting, Auditing.

INTRODUCTION

The facts prove the presence of the industrial revolution 4.0 forced to change human life and work fundamentally. "Digitalization, computing power, and data analytics have given birth to surprising breakthroughs in various fields. Industrial Revolution 4.0 is capable of disrupting human life and even disrupting civilization on this dear earth. Disruption of the Industrial Revolution 4.0 forced people to bring innovations. Separation of the Industrial Revolution 4.0 has changed the human culture on this earth. Blockchain is known as the technology underlying cryptocurrency like Bitcoin, and Blockchain has actually been actually thought about among one of the absolute most considerable turbulent innovations after the web (Swan 2015; Yermack 2017). This has actually wide ramifications for information handling, gear box, storing as well as safety and safety (Brandon 2016; Gross, Hemker, Hoelscher, as well as Reed 2017), as well as has actually the prospective towards produce a brand-new community for dealing with bookkeeping info (Dai as well as Vasarhelyi 2017; Kokina, Mancha, as well as Pachamanova 2017).

Technology disruption attacks the discipline of accounting, known as blockchain technology. Blockchain technology emerged in the 1990s by presenting a digitizing system. Blockchain is a promising technology for real-time accounting records and continuous monitoring (Supriadi et al., 2020). Blockchain technology is a giant set that registers all assets and accounting systems to transact on a global scale. Blockchain technology encourages the emergence of IFRS (International Financial Reporting Standards) because globalization is inevitable. The use of Blockchain can increase the accounting profession's potential by reducing maintenance costs and reconciling ledgers. However, the Blockchain can be a threat to accounting because the Blockchain will take over the work of accountants. The reality shows that the Blockchain empowers the accounting profession to validate economic existence.

Blockchain is a crucial technology that supports efficiency and transparency. So Blockchain, which is a disruption, should not be avoided by running. But the Blockchain must be welcomed because the Blockchain provides benefits that enhance the professional potential, one of which is the accountant. Accountants, as a profession in accounting, can be educators, management accountants, and accountants (auditors) to carry out their duties and be brave to make changes. By making changes makes the accounting profession a necessity for an organization. It was thus making accounting a relevant discipline in helping human life. This research is a development from previous researchers namely the Holy scriptures, William Raphael, Jon Riviello, Matthew Taylor, Peter Valiente, Iliana Oris (2017) that analyzed Blockchain innovation as well as its own prospective effect on the investigate as well as guarantee occupation, Liu, Manlu Wu, Kean Xu , Jennifer Jie (2019) that analyzes Exactly just how Will certainly Blockchain Innovation Effect Bookkeeping as well as Bookkeeping: Permissionless versus Permissioned Blockchain. This research study is actually likewise the advancement of a comparable subject, specifically examine carried out through Firmanto, Yuki (2017), as well as Nuraliati, Ayke Azwari, Peny Cahaya (2019).

This research study attempts to discuss the innovation as well as its own feasible effect on company, particularly on the bookkeeping occupation, in addition to exactly just how innovation can easily create a distinction that's various coming from typical as well as demonstrate how these functions steer prospective requests coming from the Blockchain. Although there's no question some technical as well as lawful difficulties that should relapse prior to the Blockchain could be completely integrated right in to the globe monetary audio body. The distinct mix of technological understanding as well as company bookkeeping, creates accounting professionals extremely well fit to assist style atmospheres as well as services that could be depended on due to the Blockchain.

In the Blockchain brand-brand new deals are actually acquired with each other right in to obstructs as well as contributed to the chain of all of previous acquisitions, along with a cryptographic procedure that's complex to perform, however that makes it simple towards verify that the background of all of deals is actually genuine. Blockchain is actually a community journal, where teams of purchases or even occasions are actually tape-taped as well as kept in information frameworks like chains (Simoyama, Grigg, Bueno, as well as Oliveira 2017). This deal team is actually referred to as a obstruct as well as purchased a chain based upon the deal opportunity. The following obstruct is actually included throughout of the string while preserving the Hash of the previous obstruct (Crosby, Pattanayak, Verma, as well as Kalyanaraman 2016). In the Blockchain there's the phrase Hash, which is actually a type of electronic trademark, electronic impact, or even recap of the obstruct utilized for the verification procedure as well as its own location in the chain. Blockchain jobs with an agreement procedure. All of nodes will certainly have the ability to determine the lengthiest as well as very most current journals as well as settle on exactly just what they are actually.

Blockchain can easily enhance the effectiveness of bookkeeping procedures, particularly in the deals as well as possessions area, which runs as a global entrance bookkeeping body. This will certainly produce assurance over legal civil liberties as well as responsibilities as well as funds, which will certainly equip the bookkeeping occupation towards broaden its own range towards document much a lot extra kinds of tasks compared to prior to. Besides, accounting professionals can easily likewise check out much a lot extra carefully the financial truths that underpin deal documents. The Blockchain's outline consist of brand-brand new deals coming from coming from one individual however infect an similar journal system, without a main operator, all of deals as

well as documents are actually long-term, cannot be actually tampered along with or even erased, as well as numerous programmable blockchains, enable the automation of brand-brand new deals as well as manages with the wise agreement. Blockchain is actually a mix of company designs such as financial rewards that sustain advanced innovation. Dealing with blockchain experts, accounting professionals can easily assist collection requirements that will certainly press Blockchain advanced. A simple simulation of Blockchain as shown below:

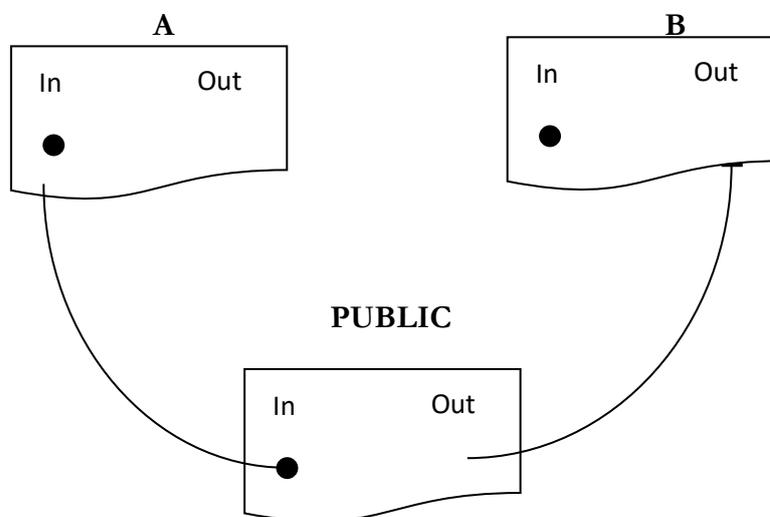


Figure 1. Triple Entry Accounting
Source : digitalis.id

Blockchain isn't uncommon for interesting innovation patterns. Within this particular situation, it is actually a back-office service for moving possession of possessions as well as audio information on the internet. It could be stated that blockchain is actually a system for bookkeeping as well as company to perform. Within this particular research study, our team have actually summed up exactly just what our company believe to become the essential elements of blockchain innovation, right in to 3 primary phrases that discuss exactly just what creates blockchain various coming from journals. The huge reserve that's much a lot better understood today in the bookkeeping procedure is actually a data source had as well as operate through one celebration. Blockchain is actually various. The outline of blockchain are actually as observes:

1. Proliferation: Certainly there certainly are actually numerous duplicates of the blockchain journal, as well as there's no 'master' duplicate. All of individuals have actually accessibility towards the ledger's complete text message, plus all duplicates are actually comparable and similar. No celebration has actually command of the bookkeeping. Brand-brand new deals could be published rapidly as well as will certainly infect printings of all of individuals.
2. Long-term: Along with each individual possessing their journal duplicate, the reality is actually identified through agreement. Previous deals cannot be actually modified without bulk authorization, which implies that blockchain documents are actually long-term. All of journals are actually maintained through each individual as well as could be confirmed and inspected.
3. Configured: Some blockchains enable course code to become kept in it, in addition to journal entrances create automated diary entrances that are actually performed immediately when set off. This is actually exactly just what is actually referred to as 'smart contract'.

Whether blockchain could be been applicable in a specific company or even industry will certainly depend upon whether this high top premium is actually a preferable option towards current techniques. An outstanding blockchain request fixated expense as well as opportunity benefits gets rid of the main celebrations of the body, as well as enhanced safety and safety as well as assurance coming from possessing an agreement body. Blockchain isn't a solitary innovation, however instead a procedure - a method of performing points - towards document deals. Unlike the web, where information is actually discussed, blockchain possession could be moved coming from one celebration towards one more.

Blockchain is actually an innovation design that's commonly talked about for a number of factors. For instance, in a market or even company procedure along with numerous celebrations carrying out deals, it can easily get rid of the have to combine/reconcile various journals. This journal is actually dispersed amongst all of individuals to ensure that it can easily decrease the expense of certainly not needing to pay out the main authorization towards preserve the precision of the bookkeeping. Each individual in the journal can easily monitor all of previous deals, therefore enabling enhanced openness as well as blockchain towards carry out self-audits.

The very initial 2 of the 3 outline - proliferation as well as long-term - are actually intrinsic towards the blockchain as well as are actually certainly not optional. This implies that every prospective request should desire (or even a minimum of be actually neutral along with) these important high top premiums. For instance, long-term documents create some tasks certainly not appropriate for blockchain services, like those including keeping unencrypted individual information. Along with each individual possessing accessibility fully journal, various other requests might be actually constricted if there's an issue of opening up readily delicate information. While information on the blockchain could be secured, a duplicate of the secured information will certainly still be actually offered towards all of individuals. A few other challenges of the blockchain could be decreased or even conquer through concentrated advancement, however these high top premiums are actually an essential component of exactly just how the blockchain is actually developed. The basic journal body that's dispersed outdoors the blockchain might disregard or even decrease these high top premiums, however it should be actually traded for safety and safety or even various other high top premiums.

METHOD

This research is qualitative research with library research. Literature research is more than just serving the functions mentioned to obtain research data. Strictly library research limits library collection materials activities without the need for field research (Zed, 2008). Qualitative research library research is used to examine the effect of the blockchain on accounting and auditing. The data source used in this study is secondary data. In this study, secondary data is derived from literature, articles, journals, and websites on the internet regarding the research conducted. Secondary data taken is the literature on the workings of the blockchain that will affect the field of accounting and auditing. In this study, the data collection technique used was a documentary technique.

This research is a qualitative study with a literature study to produce a blockchain concept that can be applied in the field of accounting and auditing through various literature concerned with these problems. In this study, data analysis techniques began with data reduction, then carried out the content analysis, and then conducted verification and confirmation of conclusions.

RESULT AND DISCUSSION

The Potential of Blockchain Technology for Accounting and Auditing

Blockchain is actually an accounting-based innovation. This associates with the move of possession of possessions as well as ways to preserve a journal of monetary info to become constantly precise. The bookkeeping occupation is actually extensively connected with the dimension as well as interaction of monetary info, in addition to the evaluation of that info. Very most professions associate with guaranteeing or even determining legal civil liberties as well as responsibilities over residential or commercial home or even preparation the very best method towards assign funds. For accounting professionals, utilizing a blockchain can easily assist offer clearness on possession as well as the presence of obligations, as well as can easily significantly enhance effectiveness.

Blockchain has actually the prospective towards enhance the bookkeeping occupation through decreasing the expense of reconciling journals and preserving. Furthermore, the blockchain likewise offers outright assurance over the possession as well as background of possessions. Blockchain can easily assist accounting professionals obtain clearness around offered sources as well as their business responsibilities. It can easily likewise maximize sources towards focus on preparation as well as evaluation, instead of simply audio. Together with various other automation patterns like artificial intelligence, blockchain will certainly likewise trigger much a lot extra bookkeeping deals to become performed, certainly not through accounting professionals. Rather, effective accounting professionals function towards evaluate genuine financial interpretations of the blockchain document, integrating documents along with financial appraisal and truth.

For instance, a blockchain may create private debtors exist, however their recoverable worth as well as financial worth are actually debatable. Possession could be confirmed along with blockchain documents, however the real problem, place, as well as worth still have to be actually verified. Through getting rid of reconciliation as well as offering assurance over deal background, the blockchain can easily likewise enhance bookkeeping protection. Within this particular situation, it can easily carry much a lot extra factor to consider towards points that are actually presently thought about as well challenging or otherwise dependable towards determine, like the worth of information had due to the business.

Blockchain is actually a replacement for reconciliation function and bookkeeping. This, obviously, can easily endanger the function of accounting professionals in these areas. However, blockchain can easily likewise include stamina towards those that concentrate on offering worth somewhere else, for instance, in as a result of diligence in acquisitions and mergers. Dispersed agreement on essential numbers enables much a lot extra opportunity to become invested in the area of evaluation as well as guidance, therefore the procedure is actually quicker general.

Blockchain Implications for Auditors

Blockchain has actually a request in an outside investigate. Confirming the company's monetary condition will certainly be actually much less required if some or even every one of the deals underlie that condition show up in blockchains. This proposition will certainly offer a considerable alter in the method auditors function. Blockchain services, when integrated along with suitable information analytics, can easily assist refix transactional issues that include the investigate procedure faster. Auditor abilities could be utilized for much a lot extra serious issues. For instance, the investigate certainly not just examinations the information of that the deal is actually as well as just the amount of is actually the financial quantity however likewise exactly just

how the deal is actually categorized and tape-taped. If a deal credit rating money, is actually this cost triggered by purchases or even sets you back, or even performs it pay out creditors, or even produce possessions. This evaluation aspect frequently needs a circumstance that isn't offered towards the public however needs company understanding. Along with the assist of the blockchain, auditors will certainly have actually much a lot extra opportunity towards concentrate on these concerns.

How the Accountant and Audit Profession Increases Its Capacity with the Blockchain

Transferring to a monetary body along with a blockchain aspect considerably provides numerous chances for the bookkeeping occupation. Accounting professionals are actually viewed as professionals in audio, using complicated regulations, company establishing requirements, and reasoning. They have actually the chance towards direct as well as affect exactly just how the blockchain is actually dental implanted as well as utilized later on. Besides, accounting professionals are actually likewise anticipated towards have the ability to establish services as well as solutions that are actually directed due to the blockchain.

To become an essential component of the monetary body, blockchain should be actually industrialized, enhanced, and standard. This procedure will certainly most probably get years. It is been actually 9 years because bitcoin began running, as well as there's still a lot function to become performed. Certainly there certainly are actually numerous blockchain as well as startup requests within this particular area, however certainly there certainly are actually few past the evidence of idea or even fly examine phase.

Accounting professionals have actually taken part in the research study, however certainly there certainly are actually much a lot extra occupations to perform. Establishing regulations as well as requirements towards deal with the blockchain is actually no little difficulty. Prominent companies as well as bookkeeping body systems ought to have the ability to carry their proficiency towards this function. Accounting professionals can easily likewise function as business advisors that think about the advantages of signing up with the blockchains on their own. It likewise offers guidance on evaluating the sets you back as well as advantages of the brand-brand new body. The mix of company as well as monetary accounting professionals will certainly setting all of them as crucial advisors for business coming close to this brand-brand new innovation towards search for chances.

Skills for the Future of Accounting & Auditing

The blockchain as well as wise agreement method will certainly change the bookkeeping areas associating with transactional assurances as well as moving residential or commercial home legal civil liberties. Decreasing task in require for reconciliation as well as administration of conflicts, integrated along with enhanced assurance around legal civil liberties as well as responsibilities, will certainly enable higher concentrate on ways to profile think about deals and for. It likewise offers growth in exactly just what locations could be accounted for. Numerous present bookkeeping division procedures could be enhanced with blockchain as well as various other contemporary innovations, like information evaluation or even artificial intelligence. This will certainly enhance the effectiveness as well as worth of the bookkeeping work.

Due to the over, the range of abilities stood for in bookkeeping will certainly alter. Some tasks, like reconciliation as well as assurances of beginning, will certainly be actually decreased or even gotten rid of, while various other areas like innovation, advisory, as well as extra value-added tasks will certainly establish. Towards investigate the business effectively along with considerable chain-based deals, the auditor's emphasis will certainly change.

There's little bit of have to verify the precision or even the presence of blockchain deals along with outside resources. Nevertheless, there's still a great deal of focus on spend for exactly just how these deals are actually tape-taped as well as acknowledged in the monetary declarations. It is actually likewise exactly just how the evaluation aspect is actually choosing. Over time, much a lot extra documents can easily change towards the blockchain. If this has actually been actually accomplished, auditors as well as regulatory authorities accessing the files will certainly have the ability to analyze the deal in real-time as well as understand the beginning of the procedure much a lot extra precisely.

Accounting professionals don't have to be actually designers along with outlined understanding of exactly just how blockchain jobs. However they have to understand ways to recommend on the fostering of the blockchain as well as think about the effect of the blockchain on their customers and company. They should likewise have the ability to serve as a connect, after possessing discussions along with company stakeholders and technologists. Accountant abilities have to be actually broadened towards consist of an comprehending of the blockchain's primary features and functions. For instance, the blockchain has actually shown up on the syllabus for ACA ICAEW certifications.

CONCLUSION

Conceptually, the blockchain is actually a relocation coming from the factor where the count on coming from the journal originates from the main operator that preserves it, throughout where it originates from self-peace of mind in the body that motivates document maintaining. Besides, the prospective for executing wise agreements creates it feasible to earn programmable journals. It can easily essentially alter the method all of plans run. Presuming that technical challenges can easily relapse, blockchain has actually fantastic prospective.

If our team just think about blockchain abilities without the wise agreement work, complete application can easily result in very most monetary systems' disintermediation. Individual obstructs in between teams that frequently handle each other can easily change main authorizations like financial institutions, attorneys, and clearinghouses. Along with the capacity towards communicate straight, as well as along with just one journal that never ever needs reconciliation, companies can easily conserve cash in paying out the journal proprietors as well as the initiative invested in reconciling along with their companions.

Eliminating unpredictability will certainly profit the economic climate through streamlining it, facilitating higher self-peace of mind in choice creating. What's much a lot extra, if required, tax obligation authorizations, regulatory authorities, or even comparable regulative body systems could be provided just sight accessibility towards the blockchain. They'll have the ability to observe as well as screen deals in real-time. Such understandings can easily result in decreased sets you back as well as enhanced effectiveness of conformity tasks and regulative. Long-term documents coming from the blockchain reduce the possibility of monetary criminal offense, therefore creating documents much a lot extra credible. Blockchain can easily enhance the bookkeeping occupation through decreasing the expense of preserving as well as reconciling journals as well as offering outright assurance over historic possessions and possession.

They were actually proactively taking part in the advancement of the blockchain along with a focus on danger command. The auditor ought to think about progressing towards affect as well as top the application of the blockchain. Investigate business should change their emphasis towards evaluating danger management's efficiency as well as providing guidance on services as

well as assurances for interior command. Quickly establishing innovation carries an outstanding chance for auditors. Towards advertise top quality solutions, auditors should think about the long-lasting possibility of transferring to constant bookkeeping. The Blockchain request enables continuous audits because of real-time accessibility towards deal documents (Johnson 2017). The following factor to consider is actually expanding the advisory work. Along with sources launched coming from conventional proof compilation as well as screening, investigate business ought to think about executing suitable information evaluation in the blockchain, as well as broadening advisory solutions like command style, alter administration, as well as blockchain innovation.

REFERENCE

- Accounting, J., Brawijaya, U., Firmanto, Y., Accounting, J., & Brawijaya, U. (2017). Analysis of the Application of Blockchain in the Context of Prevention of Accounting Fraud.
- Bible, W., Raphael, J., Riviello, M., Taylor, P., & Valiente, I. O. (2017). Blockchain technology and its potential impact on the audit and assurance profession. CPA Canada, AICPA, 1-28. <https://www.aicpa.org/content/dam/aicpa/interestareas/frc/assuranceadvisoryservices/downloadabledocuments/blockchain-technology-and-its-potential-impact-on-the-audit-and-assurance-profession.pdf>
- Brandon, D. (2016). The blockchain: The future of business information systems? *International Journal of the Academic Business World* 10: 33-40
- Crosby, M., P. Pattanayak, S. Verma, and V. Kalyanaraman. (2016). Blockchain technology: Beyond bitcoin. *Applied Innovation Review* 2: 6-19
- Dai, J., and M. A. Vasarhelyi. (2017). Toward blockchain-based accounting and assurance. *Journal of Information Systems* 31 (3): 5-21. <https://doi.org/10.2308/isys-51804>
- Gross, A., J. Hemker, J. Hoelscher, and B. Reed. (2017). The role of secondary sources on the taxation of digital currency (Bitcoin) before IRS guidance was issued. *Journal of Accounting Education* 39: 48-54. <https://doi.org/10.1016/j.jaccedu.2017.02.001>
- Kokina, J., R. Mancha, and D. Pachamanova. (2017). Blockchain: Emergent industry adoption and implications for accounting. *Journal of Emerging Technologies in Accounting* 14 (2): 91-100. <https://doi.org/10.2308/jeta-51911>
- Liu, M., Wu, K., & Xu, J. J. (2019). How Will Blockchain Technology Impact Auditing and Accounting: Permissionless versus Permissioned Blockchain. *Current Issues in Auditing*, 13(2), A19-A29. <https://doi.org/10.2308/ciia-52540>
- Nuraliati, A., & Azwari, P. C. (2019). Accounting for Cryptocurrency. *I-Finance: A Research Journal on Islamic Finance*, 4(2), 131-142. <https://doi.org/10.19109/ifinance.v4i2.2885>
- Rheinm. (2020). Article. Effect of Blockchain on Accounting and Auditing. In <https://digitalis.id/blog/blockchain-bidang-akuntansi-auditor/>. Accessed June 24, 2020
- Simoyama, F. O., I. Grigg, R. L. P. Bueno, and L. C. D. Oliveira. (2017). Triple entry ledgers with blockchain for auditing. *International Journal of Auditing Technology* 3 (3): 163-183. <https://doi.org/10.1504/IJAUDIT.2017.086741>
- Supriadi, I., Harjanti, W., Suprihandari, M. D., Dwi Prasetyo, H., & Muslikhun. (2020). Blockchain Innovation and Its Capacity to Enhance the Quality From Accounting Information Systems: BLOCKCHAIN. *International Journal of Scientific Research and Management*, 8(02), 1590-1595. <https://doi.org/10.18535/ijstrm/v8i02.em05>
- Smith, S. S. (2017). Blockchain, AI, and accounting. Available at: <https://www.ifac.org/global-knowledge-gateway/practice-management/discussion/blockchain-ai-and-accounting>

- Swan, M.(2015). *Blockchain: Blueprint for a New Economy*. Beijing, China: O'Reilly
- Yermack, D. (2017). Corporate governance and blockchains. *Review of Finance* 21 (1): 7-31
- Zed, Mestika. (2008). *Library Research Methods*. Jakarta: Indonesian Obor Foundation