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Adapting Cloud Accounting As Creative Innovation And The Role Of Accountants In The Era Of Disruption

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ABSTRACT

Cloud accounting is a pivotal innovation in contemporary accounting, significantly altering how accountants operate. This article delves into the effects of cloud accounting on the accounting profession, examining its role in an era marked by technological upheaval and how accountants adapt to persist. It elucidates the transition prompted by cloud accounting from traditional task execution, such as transaction recording, to a more analytical approach focused on deep data analysis through process automation. Yet, this transition does not render the accountant's role redundant; rather, it underscores the ongoing necessity for accountants to refine their competencies. These include analytical prowess, data interpretation skills, engagement with emerging technologies, a commitment to ethical standards, and a mastery of strategic consulting. Additionally, the article points out the critical need for accountants to continuously advance their technological understanding, embracing tools like Power BI and programming languages such as SQL, to stay pertinent and effective amidst disruptive trends. By exploring both hurdles and prospects, the narrative posits accountants at the forefront of delivering insightful, value-added recommendations to businesses navigating the digital revolution. By presenting a comprehensive analysis of the evolving landscape, the article projects a nuanced perspective on the accountant's future role, advocating for readiness and adaptation to harness the benefits presented by cloud technology in this transformative period.

Keywords: Cloud Accounting, Creative Innovation, The Role of Accountants in the Era of Disruption, How Accountants Still Exist in the Era of Disruption

Introduction

Globalization encourages us constantly to make the latest innovations to support the increasing needs[1]. With the presence of technology, many jobs are increasingly displaced[2]. The shift is driven by technological advances, *such as artificial intelligence* (AI) and cloud technology[3]. Development is triggered by the need for information quickly and precisely[4]. The natural form of internet development is the creation of a breakthrough, namely the emergence of cloud computing, commonly called cloud computing.

As a technology that changes the field of industry, technology revolutionizes various areas of daily life and works together[5][6]. After supporting the spread of the internet on a large scale, cloud computing has become a paradigm of commercial and economic development since 2006[7]. All data that enters the cloud server or data accessed through the internet network will be stored safely on the server. Data storage in the cloud is widely used today. The amount of data stored in many servers is called Big Data.

Big Data is a series of data that is huge and complex in size to support the analysis and decision-making of company management[8]. Ordered or unordered data is used to facilitate decision-making. Big Data is one of the advances in systematically storing big data [9]. Big Data is essential for companies as well as in accounting. In accounting, Big Data provides speed and ease of transaction access by using some data from accountants in an organization. Big Data includes cost convenience for its users and can reduce the cost of storing physical documents.

Technological developments entered the accounting field after the creation of increasingly rapid internet technology, such as cloud computing and Big Data [10]. The emergence of cloud accounting technology trends is one of the innovations that encourage accountants to work from manual to automatic. Starting from traditional accounting that required dedicated physical storage drives, it has now become automated[11][12]. Advances in cloud-based information systems provide internet-connected application platforms by offering breakthrough data entry that can simplify business activities[13]. Cloud accounting results from digitalization, which makes accountant work more flexible and complex[14]. QuickBooks Accounting and Jurnal are cloud-based accounting applications often used in Indonesia. Id, and Xero. The creation of cloud accounting can provide good potential for an accountant to carry out his activities. Further studies are still needed to map completely how cloud accounting can disrupt accountants' work. This research was conducted to fill the gap in the literature by mapping broadly and in-depth various studies related to how cloud accounting can disrupt accountants' work.

Research Methods

To achieve the objectives of this study, qualitative research was carried out with a systematic literature review approach, namely data collection methods used in social research by identifying, evaluating, and interpreting research fields relevant to the topic field or phenomenon of interest[15]. The stages in this systematic literature review research include eligibility criteria, sources of information, search strategies, and selection processes [16]. Titles, abstracts, and full-text articles are identified through database searches independently filtered to meet notability criteria[17].

Eligibility Criteria

Eligibility criteria are the basis for determining the source search referring to the database used. It guides you in selecting a literature search while reading the title, abstract, or full text. Eligibility criteria are determined after determining the research question and objectives, assessing the quality, and synthesizing the results[18]. Therefore, only essential data are considered when selecting relevant publications for this study. The eligibility criteria in this study follow the scope in the scientific repositories CM, EBSCO, IEEE, SAGE, Scopus, Taylor & Francis, or Web of Science (WoS), Crossref, and Google Scholar. With consideration of the latest journal publication year starting from 2019-2023. After determining the place of search, keywords will be chosen to shrink the scope of research[19]. The keywords considered are disruption, cloud computing, cloud accounting, innovation from technological developments, and the role of accountants in the future.

Resources

The repositories in the Scopus and Wos article search are the beginning of the search source because they include many publications about Cloud Accounting, Innovation, and the Future Role of Accountants. Seven scientific repositories (ACM, EBSCO, IEEE, SAGE, Scopus, Taylor & Francis, WoS, Crossref, and Google Scholar) were selected to reach publications related to eligibility criteria. Internet media is an advantage for accessing, searching, sorting, and reaching as many publications as possible. In addition, searches using ResearchGate and Google Scholar were conducted to get research citations.

Search Strategy

After determining the eligibility criteria and looking for the right source of publication information, the search strategy is carried out by mapping keywords used in the research. The search was conducted with various national and international sources [20]. Filter selection strategies are adopted to narrow the search and research focus. The search starts with separate keywords and the subsequent keyword merging. They started the search from 2019 – 2023 with the number of English journals and obtained 206 publication journals with systematic eligibility criteria.

Selection Process

Summarize the article's findings by checking whether there are duplicates, findings that do not match the keywords, and the year of publication used at the initial stage 206 journals. In the first selection stage, based on specific article titles, 80 articles were excluded, and 126 articles were set aside. Then, limiting articles published in the last 5 years, this process leaves 105 articles. Of the 105 articles, 23 were excluded because they were the same, leaving 76 articles. Fifty-six articles will be the focus of our research. After reading the entire selected article, considering the rapid development of technology makes various studies lose their relevance over time. Thus, the study analyzed 56 of the most relevant articles.

Analysis And Synthesis

Similar to empirical research in reporting results, Systematic Literature Reviews (SLRs) formally present findings derived from the review process[21]. The documentation should include abstract, introduction, methodology, results, discussion, and conclusion segments. The introductory section investigates the research question. The methodology segment describes the conduct of the review, including information sources, search criteria, study selection, data collection, and synthesis criteria. The results and discussion section entails, at the very least, a recapitulation of the research and a synthesis of the results. The conclusion section describes the practical and theoretical significance alongside the limitations of the study, as well as pathways and agendas for future investigation

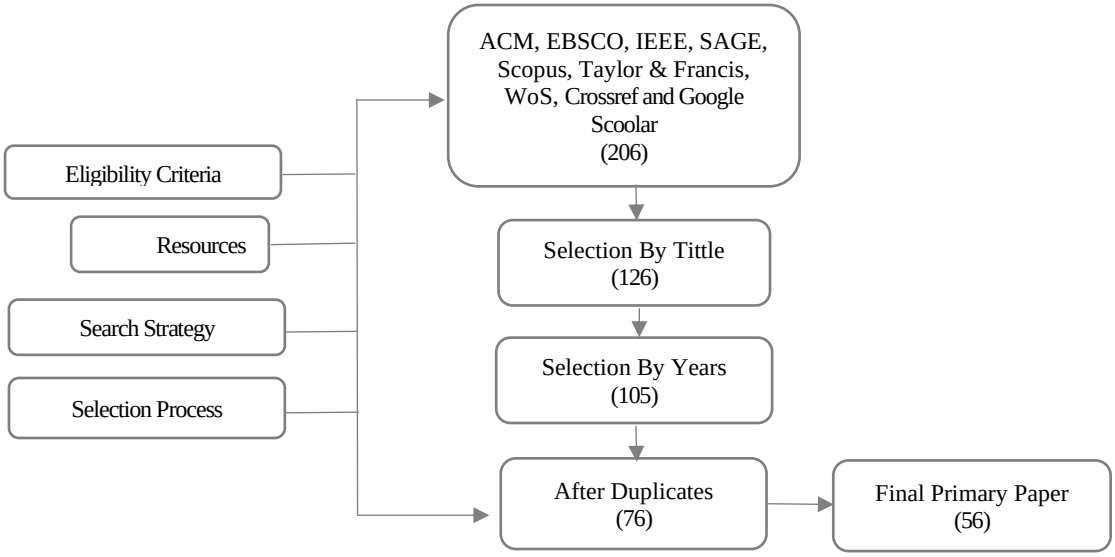

Figure 1. Data Retrieval Process

Results and Discussion

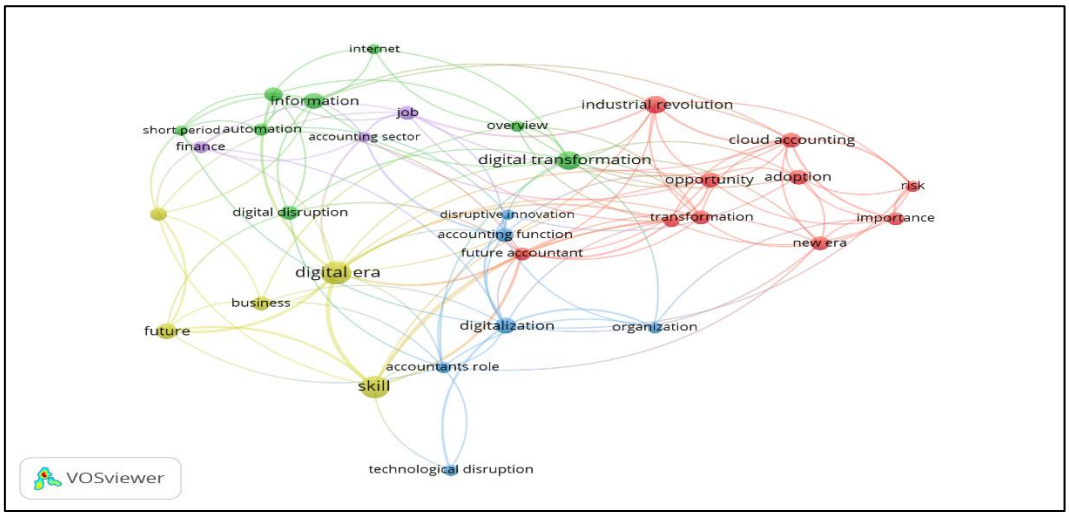

Figure 2. mapping with VOSviewer

After reading the article thoroughly, I found three main themes discussed in studies related to how cloud accounting has become a creative innovation and accountants' role in the disruption era. The description of the results of research in this study will be discussed below. Mapping is done using the Vosviewer application to build and view bibliometric maps. Offers text mining functions that can be used to develop and visualize networks/relationships (correlation) in an article/issue citation[22]. The mapping in the figure shows various concepts or ideas related to the topic of cloud accounting and the role of accountants in the era of disruption. The main components identified are cloud accounting as a creative innovation, user concerns about cloud accounting implementation, and the role of accountants in the era of disruption. Cloud accounting as a creative innovation is the center point of the diagram, which connects with various other components. It is closely related to the benefits and advantages offered to users, but it is also related to various user concerns in its implementation. Then the development of cloud accounting has significantly affected the shift in the role of accountants. Accountants are now required to develop new skills such as data analysis and technologies such as Power BI to stay relevant in the face of change. In addition, the challenges and opportunities faced by accountants are also closely related to the transformation that occurs in the world of accounting work. Likewise, the skills that need to be possessed so that accountants can take advantage of future opportunities. All of these components are interrelated and related to each other as a representation of the major changes caused by the presence of cloud accounting innovation for the accounting world. This map fully describes the impact of technological disruption on the development of the accounting profession.

Cloud Accounting As Creative Innovation and User Concern

Creative innovation is a term introduced by Joseph Schumpeter, which refers to creating an innovation process that replaces old innovation[1]. Innovation, creativity, and empathy in the digital era are the provisions for the company's success to stay in the economic cycle. One of the creative breakthroughs in accounting is the creation of cloud accounting. Cloud computing technology has emerged as a prominent trend affecting many business areas, including accounting, in the rapidly evolving era of digitalization. Cloud accounting, also called cloud-based accounting, is the storage, management, and processing of a company's financial data using cloud technology infrastructure[23]. Cloud computing has a significant influence on the quality of financial reporting. Quality financial reporting represents accurate and fair information about an entity's underlying financial position and economic performance, accounting standards, growing disclosure requirements, and other factors that have created a focus on the quality of financial statements[24]. In addition, it allows companies to access applications anywhere and anytime through internet media and no longer use hardware[25][26]. Implementing the cloud is expected to reduce costs and minimize damage due to the loss of essential company data due to user negligence[27]. Cloud Accounting also improves the efficiency of data utilization by obtaining fast processing and analysis of information, establishing diversified control mechanisms, and improving the effectiveness of financial management[28].

Apart from being an innovation in the accounting field, users still have many concerns. Related to simplicity, convenience, accessibility, and affordability. Cloud services have raised the risk of user concerns regarding security, management requests, information quality, and data availability[29]. Companies have many problems with adopting cloud computing, especially security issues, which remain a concern to users[30]. Although cloud accounting offers many advantages, such as accessibility, flexibility, and real-time availability of data, there are some disadvantages to consider: dependence on an internet connection, which requires a stable internet connection, continuous subscription fees for using cloud accounting services, limited functions/features where there is a possibility that certain features desired by the company are not available or have Limitations in the chosen solution, regulatory provisions with some industries or countries may have strict regulations related to data storage and processing so need adjustments in their use [31][32].

The Role of Accountants In The Era Of Disruption

Technological disruption has substantially changed the way accountants' work is done. Accountants are now faced with a condition where they must be willing and forced to be able to come to terms with technology. Unlike the previous issue, namely the Industrial Revolution 4.0, where accountants could prepare gradually, now the community, including accountants, must follow the revolution's fast rhythm and rhythm [33]. One of the significant innovations that brought major disruption was the introduction of cloud accounting[34]. Digital innovation has disrupted the traditional role of accountants by introducing automation and artificial intelligence technologies capable of taking over routine tasks, speeding up processes, and improving accuracy, fundamentally changing the landscape of accountants' work[35]. It provides unprecedented flexibility, allowing accountants and their clients to collaborate in real time without being constrained by geographic location.

In addition, cloud accounting has brought significant advancements in data analysis. With its ability to provide instant and real-time access to financial data, accountants can now produce more accurate and in-depth analyses, which helps companies make better and faster decisions. It also impacts operational efficiency, as routine tasks such as recording transactions and generating reports can be automated, allowing accountants to focus on more strategic and value-added activities. However, while cloud accounting brings clear benefits, it also triggers a shift in the skills required by accountants. They must now master new technologies and understand their business implications well to be able to make full use of them for the benefit of their clients. Therefore, while cloud accounting has disrupted the accounting profession, it has opened up new opportunities and driven further innovation in delivering value to their clients.

How an Accountant Overcomes the Era of Digital Disruption

In the face of disruption brought by cloud accounting and process automation technologies, accountants have adopted various strategies to remain relevant and value-added in the digital age. One of the crucial steps taken by accountants is an investment in the development of new skills appropriate to modern technology.

The role of accountants is not only limited to financial preparation and reporting but also includes other aspects such as the company's internal control to ensure compliance and efficiency, as well as in-depth analysis of financial data to provide strategic insights to management in making decisions related to business growth and sustainability[36]. An accountant also needs to expand the scope of their services to include strategic consulting and broader financial planning, helping their clients integrate new technologies into their operations profitably. Proper control through implementing an effective internal control system, monitoring evolving work trends, and capturing new opportunities are key to ensuring continuity and success in the era of disruption[37]. Accountants need hard analytical skills, including using SQL Query and data analysis tools such as Power BI to investigate and extract relevant financial data. This enables them to make more informed and strategic decisions for

companies[38]. Power BI is a tool for Business Intelligence (BI) developed by Microsoft, which is used for data analysis, report generation, and interactive dashboard creation. It provides users with the ability to link data from various sources, clean it, analyze it, and distribute it across multiple devices. Through Power BI's analytical functions such as forecasting, model building, and data monitoring, users can gain comprehensive business insights and important performance indicators from different parts of the organization. The accessibility of Power BI reports and dashboards through web browsers and mobile apps ensures that information can be easily retrieved from any location at any time. By leveraging data and analytics, Power BI empowers organizations to improve decision-making processes and drive better business results[39]. The SQL language has several important functions for data management in databases such as SELECT to retrieve data, INSERT and UPDATE to add or update data, DELETE to delete, as well as WHERE, ORDER BY, JOIN and LIKE to filter, sort, link tables and search for data.[40]. In addition, accountants are also adopting a proactive approach to identifying and exploiting innovative opportunities brought by new technologies, such as big data analytics and artificial intelligence, to provide better services to their clients.

Accountability is an irreplaceable foundation in the accounting profession that cannot be replaced by artificial intelligence (AI)[41]. In this context, accountability is an indispensable foundation in maintaining the quality and reliability of financial data and ensuring that decisions are based on accurate and trustworthy information. With disruption, demands for transparency and accountability are increasing, prompting companies and accountants to improve internal controls and supervisory procedures. Accountability also plays a vital role in shaping a corporate culture that focuses on honesty, integrity, and responsibility, which can help mitigate risk and increase stakeholder trust. In addition to skills and competencies, ethical behavior is another important thing an accountant must have from the previous year to now. Ethics is talking about a person's nature, disposition, and habits. Accountants must have good ethics in explaining their accountability, drawn from the principles of the accountant's code of ethics as principles that describe and do not conflict with ethical foundations.

Conclusion

Overall, cloud accounting is emerging as a creative innovation breakthrough that enriches the accounting world in unprecedented ways. By changing the traditional way we view and utilize financial data, cloud accounting brings revolutionary solutions with unparalleled accessibility, increased operational efficiency, and enhanced data analysis capabilities. Disruptive in its nature, the technology does present new challenges to the conventional role of accountants, with some routine tasks potentially being replaced by automation. Nevertheless, the role of the accountant is irreplaceable as a whole. Accountants remain critical in interpreting financial data, providing strategic advice, and ensuring compliance and integrity of financial information. Thus, cloud accounting not only opens the door to efficiency and speed in the accounting process but also presents an opportunity for accountants to expand the scope of their services and transform into strategic partners for companies. Therefore, while cloud accounting marks a significant shift in understanding and executing accounting, it also promises a bright future where accountants play a more meaningful and relevant role in business success.

Accountants in the future will continue to be crucial in maintaining financial health and business sustainability, provided they can retain relevant skills, strengthen their accountability, and improve decision-making abilities. Although technology continues to evolve and automation is changing traditional accounting rules, the existence of skilled and knowledgeable accountants remains irreplaceable in interpreting financial data, analyzing trends, and devising effective business strategies. Therefore, accountants must continuously develop new skills in dealing with technological developments, such as data analysis and artificial intelligence, while maintaining integrity and accountability in their duties. By playing a proactive role in providing strategic advice, helping to make data-driven decisions, and ensuring compliance with applicable accounting standards, accountants will remain a key pillar in future business success.

Based on the current phenomenon, the author suggests the need for further research on the role of accountants in the future, namely preparing to face the era of society 5.0 to maintain the existence of an accountant. Never be afraid of the presence of technology that might replace the role of accountants; even though it has the fitting accuracy, the more sophisticated technology is still only a tool; humans have wisdom in using it. The presence of disruptive innovation can eliminate millions of jobs, but with the presence of technology, it is possible for millions of people to get new jobs.

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