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Determination The Internet of Things: Technological Innovation, Corporate Culture, and Computer-Based Information Systems

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Abstract: Determination of the Internet of Things: Technological Innovation, Corporate Culture, and Computer-Based Information Systems. This analysis reviews published works on the subject of ESSB. In order to provide a foundation for future research, this article aims to generate hypotheses regarding the correlations between variables. Academic databases such as Google Scholar, Mendeley, and others are part of the research objects. This study employs a literature review strategy based on the use of publicly accessible electronic resources, such as e-books and journals. A descriptive qualitative analysis is used. The findings of this analysis are as follows: 1) Technological Innovation Determines the Internet of Things; 2) Corporate Culture Determines the Internet of Things; 3) Computer-Based Information Systems Determine the Internet of Things.

Keyword: Technological Innovation, Corporate Culture, Computer-Based Information System, Internet of Things

INTRODUCTION

Undergraduate students, graduate students, and doctoral candidates are all required to complete a research project culminating in a thesis, dissertation, or other forms of academic writing. The same applies to faculty members, operational staff, and other researchers who are expected to be actively engaged in research and write scholarly works for publication in peer-reviewed journals.

For students graduating from most institutions in Indonesia, scholarly work is an essential component of their degree programs. This applies to all academic levels, from writing undergraduate theses, master's theses, to doctoral dissertations.

However, as is well known, many students and researchers encounter difficulties when trying to find articles to support their scholarly work. This applies regardless of whether they are looking for relevant previous research, articles to help build a theory, articles to investigate the relationships between variables, or articles to help them formulate hypotheses. Thus, this article also reviews the Determinants of the Internet of Things: Technological Innovation, Corporate Culture, and Computer-Based Information System by

referencing the ESSB domain.

Referring to the above background, the matters to be addressed and discussed in the article are to build hypotheses for future research, namely formulating: 1) Technological Innovation as a Determinant of the Internet of Things; 2) Corporate Culture as a Determinant of the Internet of Things; 3) Computer-Based Information System as a Determinant of the Internet of Things.

METHOD

The method for writing the Literature Review article involves a Literature Review and a Systematic Literature Review (SLR), which are then analyzed qualitatively. Information sources are obtained online through platforms such as Mendeley, Google Scholar, and other academic support tools.

According to Kitchenham et al. (2009), a systematic literature review (SLR) involves finding, assessing, and interpreting all relevant review materials to answer the established review questions.

It is crucial to consistently use literature reviews in qualitative analysis, which is based on methodological principles. Researchers often turn to qualitative methods when conducting exploratory studies (Ali, H., & Limakrisna, 2013).

RESULTS AND DISCUSSION

In the context of the research, the conclusions of the article based on the methodology used include:

Internet of Things

The phrase "Internet of Things" (IoT) describes the expanded use of the internet, encompassing mobile computing and increased connectivity, integrating it into everyday life. The shift in internet usage from an IoP-centric paradigm to an M2M-centric paradigm is symbolized by the Disruption of Things (DoT). Isnawati, I., & Ali, H. (2024).

IoT includes a network of interconnected computing devices, all of which have unique identifiers. This encompasses mechanical and digital machines, objects, animals, and humans. There is no need for human-to-human or computer-to-computer contact with this system's ability to transmit data over a network. In 2022, Rusnawati and Hariyati published a work.

This IoT topic has been extensively researched by previous academics such as Rusnawati, R. D., & Hariyati, R. T. S. (2022) and Isnawati, I., & Ali, H. (2024).

Technological Innovation

Innovations in hardware and software have impacted the efficiency of economic management operations, which in turn affects how economic resources are managed within a country. In terms of economic management, technological innovations—particularly in hardware and software—have become essential tools for supporting operational efficiency. Jange, B., Idie, D., Taufan, A., Pattiran, M., & Tindage, J. (2024).

According to Maisharoh and Ali (2020), this technological innovation has substantial consequences for operational efficiency within the domain of economic management. Leveraging sophisticated hardware and software optimizes the administration of economic resources effectively. An illustration of how real-time monitoring of various economic forms enables policymakers to promptly identify threats and opportunities, as well as focus resource allocation according to optimal data collection, (Ardiansyah, 2023). Jange, B., Pattiran, M., Idie, D., Taufan, A., and Tindage, J. (2024).

The subject of technological innovation has been a subject of considerable scientific research in the past, as evidenced by the works of Jange, B., Idie, D., Maisharoh & Ali (2020), Ardiansyah (2023), and Taufan, A., Pattiran, M., & Tindage, J. (2024).

Corporate Culture

The influence of corporate culture can be significant, especially in strong cultures. Employee performance is significantly affected by corporate culture. This has tangible implications for increasing organizational productivity and enhancing competitiveness. Santika, E., Yohanas, A. A., Rahmadiani, R., & Maulia, I. R. (2024).

A strong corporate culture has a greater influence on employees compared to a weak corporate culture. The formation of organizational culture is based on repeated practices, well-established bureaucratic conventions, and methods of task resolution that have proven effective in the past. Strengthening organizational culture can be achieved when a leader embraces and identifies with positive values (Zacharias et al., 2021).

Organizational culture is not the sole element that can influence employee performance, but also work discipline. An example of a factor that can be developed by companies is when their employees demonstrate discipline towards the regulations set by the organization (Rivaldo & Nabella, 2023).

Computer-Based Information System

In today's digital era, information can be quickly accessed. With just a few clicks on the internet, on the palm of our smartphones, updated information can be readily accessed. This is one example of utilizing information systems by incorporating various advancements in information technology (IT), including computer hardware, software, databases, communication systems, the internet, mobile devices, and others. The function of these components is to perform specific tasks in communication and information sharing within organizations (social). Many companies/governments implement this as decision support systems (knowledge-based systems), expert systems, and virtual offices by utilizing computer-based information systems (CBIS) (Daniel and Wiwik, 2015). Rahayu, P. (2018).

Information Systems (IS) are the result of collaboration between information technology users and management, as well as operational support personnel utilizing that technology. The term "information system" is often applied to the interaction between individuals, algorithmic procedures, data, and technology in a broad sense. Information Technology (IT), in particular, relates to the management and support, development, design, implementation, and enhancement of hardware- and software-based information systems. Ali, I. H. H., Pre-Msc, M. M., Nanda, C. R. D., Kurniawati, N. N. S., Nurdianto, A., Khulsum, U., & Lubis, B. P.

The past few years have witnessed a significant shift in the evolution of computer-based information systems. More and more businesses are adopting Electronic Data Processing (EDP) systems as replacements for manual accounting systems, lending credence to this claim. Nugrahadi, E. W., & Sukiswo, W. H. D. (2019).

Table

As shown in Table 1, the formulation of the research hypotheses is based on a review of related articles that describe previous research findings and compare their similarities and differences with the design of this study.

Table 1: Relevant Research Findings

No	Author (Year)	Previous Research Results	Similarities with This Article	Differences with This Article	H
1	Isnawati, I., & Ali, H. (2024).	The Influence of Education, Information, and Communication on the Internet of Things	Implications of Internet of Things Information	Determinants of the Internet of Things: Technological Innovation, Corporate Culture, and Computer-Based Information System	H1
2	Rusnawati, R. D., & Hariyati, R. T. S. (2022).	IMPLEMENTATION OF THE INTERNET OF THINGS IN HEALTHCARE SERVICES (LITERATURE REVIEW)	The Influence of the Internet of Things	Determinants of the Internet of Things: Technological Innovation, Corporate Culture, and Computer-Based Information System	H1
3	Santika, E., Yohanas, A. A., Rahmadiani, R., & Maulia, I. R. (2024).	The Influence of Organizational Culture and Work Discipline on Employee Performance (Literature Review)	The Influence of Organizational Culture	Determinants of the Internet of Things: Technological Innovation, Corporate Culture, and Computer-Based Information System	H2
4	Zacharias et al., 2021	*Cultural Reconstruction and Organization Environment for Employee Performance*	The Influence of Organizational Culture	Determinants of the Internet of Things: Technological Innovation, Corporate Culture, and Computer-Based Information System	H2

5	Rahayu, P. (2018).	The Implementation of CBIS Population Administration Information System (SIAK) in Indonesia	The Implementation of Computer-Based Information System	Determinants of the Internet of Things: Technological Innovation, Corporate Culture, and Computer-Based Information System	H3
6	Nugrahadi, E. W., & Sukiswo, W. H. D. (2019).	THE INFLUENCE OF INDEPENDENCE, COMPETENCE, OBJECTIVITY, AND INTEGRITY ON THE QUALITY OF AUDITS OF COMPUTER-BASED INFORMATION SYSTEMS AT PUBLIC ACCOUNTANT OFFICES (KAP) IN SURABAYA	The Implementation of Computer-Based Information System	Determinants of the Internet of Things: Technological Innovation, Corporate Culture, and Computer-Based Information System	H3

Conceptual Framework

With reference to relevant research, problem formulation, and discourse, the conceptual framework of this article is established, as illustrated in Figure 1.

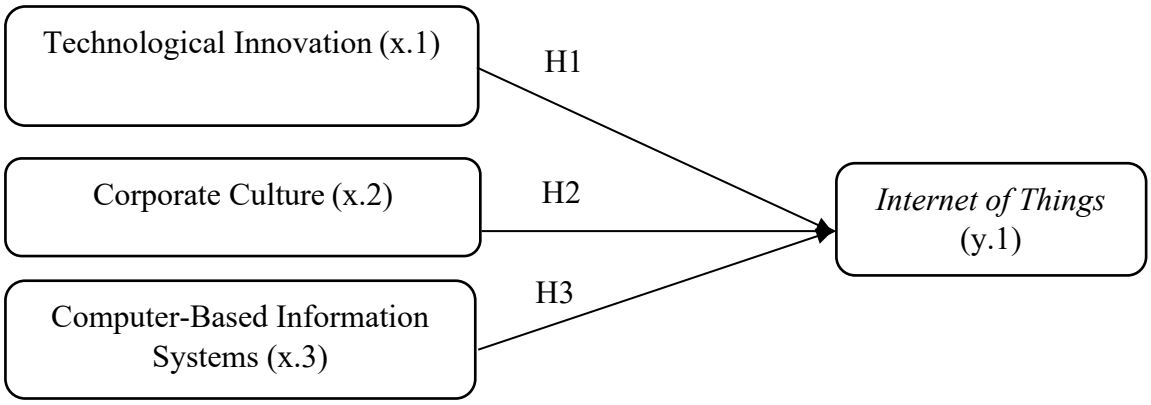

Figure 1: Conceptual Framework

CONCLUSION

Based on the objectives, findings, and discussions mentioned above, the aim of the paper's conclusion is to formulate hypotheses that serve as the foundation for future research:

1) Technological Innovation as a Determinant of the Internet of Things;
2) Corporate Culture as a Determinant of the Internet of Things;
3) Computer-Based Information System as a Determinant of the Internet of Things.

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