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The Influence of Cyberspace, Computerization, and Technology on Information Systems

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Abstract: The Influence of Cyberspace, Computerization, and Technology on Information Systems is a scientific literature review article within the scope of ESBB. The aim of this article is to establish the influence between variables that will be used in subsequent research. The research objects are online libraries, Google Scholar, Mendeley, and other academic online media. The research method is library research sourced from e-books and open access e-journals, with qualitative descriptive analysis. The following are the findings of this analysis: 1) Cyberspace influences information systems; 2) Computerization influences information systems; and 3) Technology influences information systems.

Keyword: Information Systems, Cyberspace, Computerization, Technology

INTRODUCTION

The rapid advancement of technology and information has made work more efficient, as tasks that were once done manually are now automated. The influence and role of technology and information in human life are crucial. The development of information technology progresses alongside human development. Many people leverage the opportunities presented by technological advancements for business purposes. Therefore, information systems and their supporting technological advancements are expected to trigger significant changes in the fields of business and management.

Based on this, relevant articles are needed to strengthen the theories being studied, to examine the relationships or influences between variables, and to build hypotheses. This article discusses the influence of cyberspace, computerization, and technology on information systems, as a literature review study in the field of ESBB.

Given this background, the purpose of writing this article is to build hypotheses for future research, specifically to formulate: 1) The influence of cyberspace on information systems; 2) The influence of computerization on information systems; and 3) The influence of technology on information systems.

METHOD

The method for writing this Literature Review article includes Library Research and Systematic Literature Review (SLR) methods, analyzed qualitatively, sourced from online applications such as Google Scholar, Mendeley, and other academic online platforms.

Systematic Literature Review (SLR) is defined as the process of identifying, evaluating, and interpreting all available research evidence with the aim of providing an answer to a specific research question (Kitchenham et al., 2009).

In qualitative analysis, literature reviews must be used consistently with methodological assumptions. One reason for conducting qualitative analysis is that the research is exploratory in nature (Ali, H., & Limakrisna, 2013).

RESULTS AND DISCUSSION

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

Cyberspace

Cyberspace is an electronic medium within computer networks that is widely used for one-way or reciprocal communication online (directly connected). This cyberspace is an integration of various communication technology devices and computer networks that connect communication devices such as computers, mobile phones, electronic instruments, and others, which are spread all over the world interactively and mediated by the internet.

Cyberspace is a connected digital environment, widely introduced with the advent of the Internet. The term was initially popular among science fiction and art circles, but it is now used by technology experts, security professionals, governments, military leaders, industry professionals, and entrepreneurs to describe the domain of the global technology environment. Generally, cyberspace refers to the global network of interconnected information technology infrastructures, including telecommunications networks and computer processing systems. Some people view cyberspace merely as a conceptual environment where communication through computer networks takes place. Fiannisa, A., & Nasution, M. I. P. (2023).

This cyberspace has been extensively researched by previous researchers, including Fiannisa, A., & Nasution, M. I. P. (2023) and This cyberspace has been extensively researched by previous researchers, including Fiannisa, A., & Nasution, M. I. P. (2023) and Elisabeth, D. M. (2019).

Computerization

Computerization is the process of replacing manual systems with computer-based systems. The goal is to improve efficiency, accuracy, and speed in completing tasks. Computerization is the process of data processing that is mostly carried out using computers programmed with various software to handle specific applications. These applications involve data processing activities related to the specific affairs of a company. Computerization provides various benefits, such as increased productivity and efficiency, improved data accuracy, time and energy savings, ease of access to information, and enhanced product and service quality. Putri, W. S., & Hendarsyah, D. (2020)

Computerization is applied across various sectors such as business, education, healthcare, government, and manufacturing. Specific examples include using computers to manage finances, monitor inventory, provide medical care, process documents, and control machinery.

This Computerization has been extensively researched by previous researchers, including Fiannisa, A., & Nasution, M. I. P. (2023) and Elisabeth, D. M. (2019).

Technology

Technology encompasses all means used to provide goods necessary for the sustainability and comfort of human life. The use of technology by humans began with the transformation of natural resources into simple tools. Prehistoric discoveries, such as the ability to control fire, increased the availability of food, while the invention of the wheel facilitated travel and control over the environment. Recent technological developments, such as the printing press, telephone, and the Internet, have reduced physical barriers to communication and enabled freer global interaction. However, not all technology is utilized for peaceful purposes. Ali, A. (2017)

Technology is the scientific knowledge that studies the skills involved in creating tools, as well as the methods of processing and extracting materials, to solve various specific problems and everyday tasks for humans in general.

This technology has been extensively researched by previous researchers, including Gani, A. G. (2018) and Sofita, Y. R., Sartika, S., Audya, M., & Ibrahim, A. (2019).

Information systems

Information systems are a component of planning that is part of the internal control of a business. This includes the use of people, documents, technology, and procedures by management accounting to solve business problems such as product costs, services, or business strategies (Hariyanto, S. 2016).

Information systems are a planning component that is part of the internal control of a business, involving the use of people, documents, technology, and procedures by management accounting to address business problems such as product costs, services, or business strategies. For smooth operations, information systems require several key elements such as computerization and technological development.

This information system has been extensively researched by previous researchers, including Syamsudin, S., & Ali, H. (2024) and Sofita, Y. R., Sartika, S., Audya, M., & Ibrahim, A. (2019).

CONCLUSION

Based on the objectives, results, and discussion, the conclusion of this article is to formulate hypotheses for further research, namely:

- 1) Cyberspace influences information systems;
- 2) Computerization influences information systems; and
- 3) Technology influences information systems.

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DESCRIPTION OF TABLES AND FIGURES

Table

As shown in Table 1, the formulation of the research hypotheses was based on a review of related articles describing the results of previous studies and comparing their similarities and differences with the design of this study.

Table 1: Relevant Research Results

No	Author (Year)	Results of Previous Research	Similarities with This Article	Differences with this Article	H
1	Elisabeth, D. M. (2019).	Study on the role of information technology in the development of computerized audits (theoretical study)	Technology and computerization influence information systems	Cyberspace influences information systems	H1
2	Fiannisa, A., & Nasution, M. I. P. (2023).	The impact of the Internet Revolution on Global Information Systems. Surplus	Technology influences information systems	Cyberspace and computerization influence information systems	H1
3	Gani, A. G. (2018).	Introduction to internet technology and its impact.	Technology influences information systems	Cyberspace and computerization influence information systems	H2

4	Pibriana, D., & Ricoida, D. I. (2017). Analysis of the influence of internet use on students' learning interest (case study: universities in Palembang City)	Technology and computerization influence information systems	Cyberspace influences information systems	H2
5	Sofita, Y. R., Sartika, S., Audya, M., & Ibrahim, A. (2019). The influence of the Internet on social interaction among students at Sriwijaya University.	Cyberspace and technology have an impact on information systems	Computerization influences information systems	H3
6	Syamsudin, S., & Ali, H. (2024). The influence of Operating Systems, Databases, and Servers on Information Systems	Technology and computerization influence information systems	Cyberspace influences information systems	H3

Figure

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

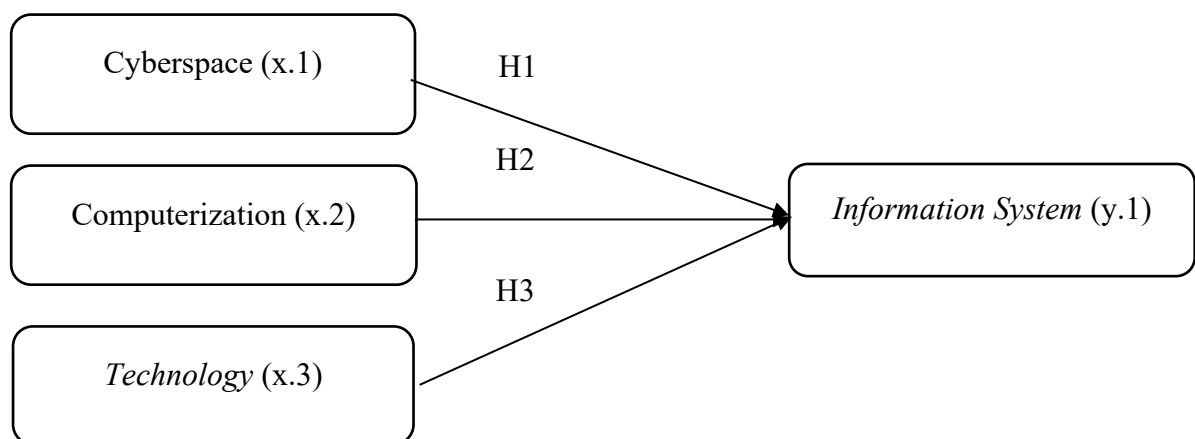


Figure 1: Conceptual Framework