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The Effect of Cost, Brainware and Software on Computer-Based Information Systems

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Abstract: The Effect of Cost, Brainware and Software on Computer-Based Information Systems is a scientific article of literature study within the scope of CBIS. The purpose of this article is to build a hypothesis of the influence between variables that will be used in future research. The object of research is in online libraries, Google Scholar, Mendeley and other academic online media. The research method with the library research is sourced from e- books and open access e-journals. Qualitative descriptive analysis. The results of this article: 1) cost affects Computer-Based Information Systems; 2) Brainware affects Computer-Based Information Systems; and 3) Software affects Computer-Based Information Systems.

Keyword: Computer-Based Information Systems, Cost, Brainware, Software

INTRODUCTION

In the current era of globalization, where every aspect of human life is greatly influenced by technological developments. We can see this from the changes that occur in our environment, be it the household environment, school, company, transportation and other aspects of life. Computer-based information systems currently have an important role because computer technology can provide many advantages and conveniences for every field, one of which is in the business world. One of the advantages of using this computer-based system is that it makes it easier to work, present data, and obtain information in decision-making by management.

A good and quality computer-based information system must certainly be supported by several factors such as *cost*, *software*, *brainware* and so on. Building a quality *system* is, of course, influenced by the cost factor. The greater the cost incurred, the availability of the resources needed is sufficient, so as to produce a *quality information* system. Likewise, the software used in computer-based information systems must be of high quality. This aims to facilitate the implementation of *input*, processing, *output*, storage, and control activities of information systems. The success obtained from this *computer-based information system* is

closely related to the quality of the software used because it supports a more effective and efficient work process.

Human resources or brainware certainly have a very important influence on the processing of information systems because brainware can increase efficiency and performance in computer systems. Brainware can optimize the use of hardware and software, can prevent system failures, and handle problems quickly. Brainware has a huge responsibility in controlling, managing, and utilizing computer systems through programs that are run in order to obtain quality output and can be used as a decision-making tool for company management.

This article discusses the influence of Cost, Brainware, and Software on Computer-Based Information Systems, a literature review study in the field of science. Based on the background, the purpose of writing this article is to build a hypothesis for further research, namely to formulate: 1) The Effect of Cost on Computer-Based Information Systems; 2) The Influence of Brainware on Computer-Based Information Systems; and 3) The Influence of Software on Computer-Based Information Systems;

METHOD

The method of writing *Literature Review* articles is by library *research and Systematic Literature Review (SLR) methods*, which are analyzed qualitatively, sourced from the online applications *Google Scholar, Mendeley* and other online academic applications.

Systematic Literature Review (SLR) is defined as the process of identifying, assessing and interpreting all available research evidence with the aim of providing answers to specific research questions (Kitchenham et al., 2009).

In qualitative analysis, literature review should be used consistently with methodological assumptions. One of the reasons for conducting a qualitative analysis is that the research is exploratory, (Ali, H., & Limakrisna, 2013).

RESULTS AND DISCUSSION

Result

Based on the background, objectives and methods, the results of this article are as follows:

Computer-Based Information Systems

Computer-Based Information Systems are information systems that can be technically defined as a set of interrelated components that collect (or retrieve), process, store, and distribute information to support decision-making and control within an organization (Asmony et al. 2020).

Computer-Based Information Systems (CBIS) can be assumed that all parts are connected through a network that is interconnected with each other, so that the activities carried out by the company can be carried out properly which will later affect the acceleration of decision-making by management (Jatmiko, 2020)

Dimensions, indicators, synthesis or factors that affect Computer-Based Information Systems are *Hardware, Computer Networks (networks), Software, Data, Telecommunications, Procedures, and Humans.*

This Computer-Based Information System has been researched by many previous researchers, including (Wibowo, 2021) and (Saliman, 2021).

Cost

Cost is as a sacrifice of economic resources, which can be measured in units of money, that has happened or that may happen for a certain purpose Or it can be said that cost is the total money spent by a company to produce a product, be it goods or services (Priceadi, 2018)

Cost is the sacrifice of economic resources to obtain goods or services that are expected to provide benefits now or in the future.

According to (Wibowo, 2021) There are 7 Classification of Costs Based on Operational Activities, which are as follows:

1. Production Cost
2. Direct Labor Costs
3. Indirect Labor Costs
4. Depreciation Costs
5. Maintenance Costs
6. Investment Costs
7. Factory Overhead Costs

Cost This has been researched by many previous researchers, including (Sherly, 2021), (Amalina, 2022) and (Priceadi, 2018).

Brainware

Brainware is someone who is already an expert in his field professionally and is directly involved in processing or running projects system information. The person in question is like an analyst and a programmer (Larasati, 2020).

Brainware is a term for people who are involved in data processing on computers. But not all users are Brainware. A user is called Brainware if he does not just use a computer but can process a computer data. (Julian and Ali n.d.) quoted in (Iskandar, 2018).

Brainware is a resource that has involvement in the process of compiling, collecting, distributing, processing data, and utilizing information produced by an information system (Frisdayanti, 2019).

According to (Bramamanggala, 2024) Brainware As human resources at the time of development of information systems can be divided into four groups, namely: a) Owner b) Wearer c) Planner d) Builder

Brainware This has been researched by many previous researchers, including (Frisdayanti, 2019) and (Sidh, 2019).

Software

Software is a device that functions as a regulator of computer work activities and all instructions that lead to a computer system or can be said to be a collection of programs used to run a computer or a certain application on a computer (Harsono, 2022).

Software (Software Rating) is a group of documents such as software usage guidelines that users can use to understand or get to know the software system (Nurul, 2022).

Software This has been researched by many previous researchers, including (Nugroho, 2022) and (Bramamanggala, 2024)

Review Relevant Articles

Review relevant articles as a basis in establishing a research hypothesis by explaining the results of previous research, explaining the similarities and differences with the research plan, from relevant previous research as shown in table 1 below.

Table 1: Relevant Research Results

It	Author (Year)	Previous Results	Research	Similarities to this article	Differences With This Article	H
1	(Wibowo, 2021)	<i>Cost and service effectiveness have a positive and significant effect on Computer-Based Information Systems</i>	service have a significant impact on Computer-Based Information Systems	<i>Cost</i> affects Computer-Based Information Systems	Service effectiveness affects Computer-Based Information Systems	H1
2	(Amalina, 2019)	<i>Cost and system quality have a positive and significant impact on Computer-Based Information Systems</i>	system quality have a positive and significant impact on Computer-Based Information Systems	<i>cost</i> affects Computer-Based Information Systems	System quality affects Computer-Based Information Systems	H1
3	(Frisdayanti, 2019)	<i>Brainware has a significant impact on Computer-Based Information Systems</i>	Brainware has a significant impact on Computer-Based Information Systems	<i>Brainware</i> affects Computer-Based Information Systems	Management information systems have an effect on Computer-Based Information Systems	H2
4	(Sidh, 2019)	<i>Brainware has a positive and significant impact on Computer-Based Information Systems</i>	Brainware has a positive and significant impact on Computer-Based Information Systems	<i>Brainware</i> affects Computer-Based Information Systems	Management information systems have an effect on Computer-Based Information Systems	H2
5	(Bratamanggala, 2024)	<i>Software, hardware and brainware have a positive and significant impact on Computer-Based Information Systems</i>	software, hardware and brainware have a positive and significant impact on Computer-Based Information Systems	Software and brainware affect Computer-Based Information Systems	Hardware affects Computer-Based Information Systems	H3
6	(Nugroho, 2022)	<i>Software and brainware have a positive and significant impact on Computer-Based Information Systems</i>	software and brainware have a positive and significant impact on Computer-Based Information Systems	Software Affects Computer-Based Information Systems	Hardware affects Computer-Based Information Systems	H3

Discussion

Based on the theoretical study, the discussion of *this literature review* article is to review relevant articles, analyze the influence between variables and make conceptual thinking of a research plan:

Based on the results of the research, the discussion of this article is to review relevant articles, analyze the influence between variables and make conceptual thinking of a research plan:

The Effect of *Cost* on Computer-Based Information Systems

The development of *computer* programs designed to make it easier for management to manage information is growing rapidly. The sophistication of the application and components used certainly cannot be obtained for free, the processing or preparation process requires expensive costs. *Cost* is a form of sacrifice for economic resources expressed in the form of a unit of money, where it can be used for the Company to obtain goods and services that can be used to carry out all its business needs.

It can be concluded that cost affects computer-based information systems because to get a good and quality information system, a commensurate cost is needed which can later help managers in carrying out their functions and roles that require accurate, fast, and appropriate information support in order to be able to carry out their tasks more effectively.

Cost affect Computer-Based Information Systems, this is in line with research conducted by (Trisyanto, 2021), (Saliman, 2021), (Priceadi, 2018)and (Amrulloh, 2020).

The Influence of Brainware on Computer-Based Information Systems

Information systems are highly dependent on the components used in producing information systems that suit their needs. The gap that occurs in the implementation of these components will produce less accurate and less relevant information. Therefore, it is necessary to have a deep understanding of this computer-based information system, especially brainware , in order to produce information that is of useful value for companies and organizations

Brainware affects Computer-Based Information Systems, if *Brainware* is perceived well, Computer-Based Information Systems will be perceived well, and vice versa. This can be explained that brainware is a human involved in operating or using and managing systems in computer devices. It can also be interpreted as an intellectual device that operates and also explores the capabilities of hardware and software.

The factors that affect Brainware are the skills, environment, and technology used. Brainware consists of programmers, system analysts, administrators, technicians, and web masters.

Brainware Computer-Based Information Systems, this is in line with the research conducted by (Bratamangala, 2024) , (Sidh, 2019) and (Larasati, 2020).

The Influence of Software on Computer-Based Information Systems

Software is a very important component in information systems, software components are part of information system software which includes operating procedures required by computer programs and operating procedures required by humans. The software used affects the implementation of information systems, where software is a component that must be present in the implementation of information systems.

Software affects Computer-Based Information Systems, if Software is perceived well, Computer-Based Information Systems will be perceived well, and vice versa. This can be explained that the success of an information system is related to the quality of the software from the use of applications, the software used must be specially designed to meet the needs in integrating each unit with high technological speed as it can run with needs and is easy to use.

The factors that affect the Software are integrity, reliability, usability, accuracy, efficiency, and ease of maintenance, flexibility, and use.

Software Computer-Based Information Systems, this is in line with the research conducted by (Bratamangala, 2024) , (Nugroho, 2022)and (Nurul, 2022).

Conceptual outline of the research

Based on the formulation of the problem, the discussion and the relevant research, the conceptual framework of this article is as shown in figure 1 below.

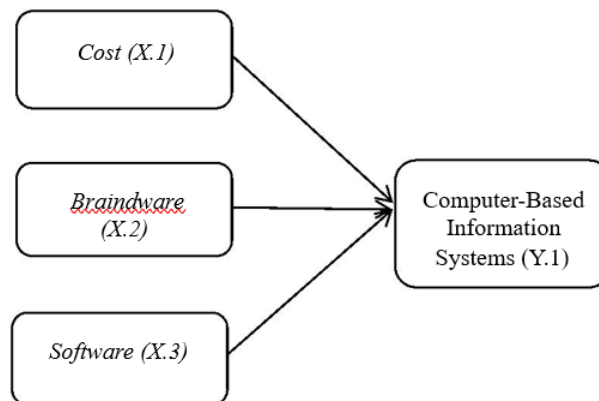


Figure 1: Conceptual Outline

Based on the conceptual framework image above, then: *Cost*, *Brainware* and *Software* affect Computer-Based Information Systems. Apart from the three variables *exogen* that affect Computer-Based Information Systems, there are many other variables, including:

1. X4: System quality (Wibowo, Trisyanto, and Rachprilliani, 2021) and (Amalina 2022).
2. X5: Management information system (Larasati, 2020), (Sidh , 2019) and (Frisdayanti 2019).
3. X6: Hardware (Bratamanggala, 2024) , (Nugroho, 2022) and (Nurul, 2022).

CONCLUSION

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

1. *Cost* affects Computer-Based Information Systems;
2. *Brainware* affects Computer-Based Information Systems. and
3. *Software* affects Computer-Based Information Systems.

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