The Influence of Information Technology, Organizations and Government Regulations on Decision Support Systems

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Abstract: The influence of information technology, organization and government regulation on decision support systems is a scientific article in literature research within the ESSB framework. The purpose of this article is to develop a hypothesis about the influence between variables, which will be used in further research. The object of research is in online libraries, Google Scholar, Mendeley and other online academic media. The research method uses library studies in the form of e-books and open access e-journals Qualitative descriptive analysis. The results of this writing are: 1) Information Technology influences decision support systems. 2) Organizations influence decision support systems. and 3) Government regulations influence decision support systems.

Keyword: Decision Support System, Information Technology, Organization, Government Regulation.

INTRODUCTION

Thesis, dissertation and dissertation are research that must be carried out by all students at Strata 1, Strata 2 and Strata 3. Research in the same way is also carried out by Lecturers, Researchers and other functional staff to be published in scientific journals.

Relevant previous research materials to support their scientific work is a problem that many authors sometimes encounter.

Based on this background, the purpose of writing this article is to complete the ESSB course assignment for the Master of Management study at Bhayangkara Jaya University, Jakarta by building a hypothesis for further research on the following factors: The influence of information technology, organization, and government regulation on the decision support system.

METHOD

Library Research and Systematic Literature Review (SLR) methods are used to write Literature Review articles. Qualitative analysis is used by academic online applications such as Google Scholar, Mendeley, and others. Systematic Literature Review (SLR) is the process

of finding, assessing, and interpreting available research evidence to answer a specific research question (Kitchenham et al., 2009). Literature review should be used consistently with the methodological assumptions in qualitative analysis. One of the reasons why qualitative analysis was chosen is because this research is exploratory (Ali, H., & Limakrisna, 2013).

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

Decision Support System
G. Anthony Ghory and Michael S. Scott Motron founded the Decision Support System (*DSS*) in 1971 to direct computer applications to management decision making using models and data to solve semi-structured problems while fully involving users (Setiyaningsih, 2015) .

The main purpose of a decision support system is to support the decision-making process at various levels in a company or organization. A support system can also be defined as an information system that provides a solution and problem solving to semi-structured problems.

Aspects of decision support systems.
1) Data Management
2) Model management
3) User interface
4) Knowledge Management

In general, decision support systems are divided into 2 types (Apriyansyah, 2022) :
1) Model-based decision support system. This system stands alone and is separate from the company's information system. Its analytical capabilities are supported by several strong theories or models and a good interface so that it is easy to use. This system creates simulation models, planning, scheduling and reports in statistical form.
2) Decision support system This system can analyze large amounts of data from various sources (organizational data, company systems and even from websites/internet) stored in a database from the present and the past to be used as a tool for providing reports and specific requests.

The dimensions, indicators, synthesis or factors that influence the Decision Support System are as follows (Pratiwi, 2020) :
1) Information Technology
2) Organizational culture
3) Human Resources Competence
4) Regulations and Policies
5) Data Availability

The benefits of a Decision Support System are as follows:
1) Improve the quality of decisions,
2) Improve the efficiency of decision making,
3) Increase decision maker satisfaction,
4) Increase profitability, and
5) Increase business competitiveness.

Decision support systems have been widely studied by previous researchers, including (Fernando & Baldelovar, 2022) , (Isla & Ali, 2022) , (Yahya & Ali, 2023).

Information Technology

Information technology includes high-speed communications and computing for video, voice, and data (Shinta Nurul, 2022). Information technology (IT) refers to all communication technologies and systems, such as mobile phones, television, two-way interactive cable, direct broadcast satellites, and computers (Astuti et al., 2019) that are used to manage and process information by collecting, storing, processing, and distributing data and information. IT plays an important role in improving the efficiency, productivity, and competitiveness of organizations in various sectors (Ali et al., 2022) .

Hardware, software, database, people and users (brainware), networks (LAN/WAN) and information security are aspects of information technology (Nurlifa et al., 2014) .

The role of information technology can be broadly divided into 3 (Nurul et al., 2022) that is :

1) Information technology acts as a substitute for humans. In this case, information technology automates processes,
2) Information technology plays a role in strengthening the role of humans. In this case, information technology presents data or information on a process, and
3) Information technology plays a role in restructuring human roles. In this case, information technology plays a role in making changes to a set of processes.

Information technology has been widely studied by previous researchers, including (Ashshidiqy & Ali, 2019) , (Maisharoh & Ali, 2020) and (Muhajirin et al., 2024)

Organization

Organization is a form of cooperation between a group of people in a particular field to achieve a particular goal (Apriyansyah, 2022) . An organization is an entity consisting of a group of individuals who work together to achieve a common goal. An organization can be an institution, company, or community that has a structure and system to manage resources (human, financial, and material) to achieve predetermined goals. In the context of management, an organization also refers to the process of arranging resources and activities to achieve these goals effectively and efficiently (Astuti et al., 2019). Organizations have several characteristics as follows:

1) There is a division of work, power and responsibility in communicating with each other, a planned division to increase the achievement of specific goals.
2) The existence of one or more centers of power that oversee the implementation of joint efforts in the organization and the ongoing supervision and appointment of organizational implementers to reorganize its structure to increase efficiency.
3) Arrangement for less productive employees whose work can be transferred to other more competent people.

There are eleven principles of organization that aim to ensure that the main tasks and functions of the organization can be carried out properly based on organizational principles that are in accordance with the needs of internal and external changes. The results of implementing these eleven principles of organization will provide effective decision making, (Apriyansyah, 2022) . The eleven principles of organization are:

1) Clear goals,
2) Determination,
3) Division of work,
4) Coordination,
5) Delegation of authority,
6) Expenditure control,
7) Organizational level,
8) Unity of command,
9) Flexibility,

10) Sustainability, and
11) Continuity
Organizations have been widely studied by previous researchers, including (Umiyati et al., 2022) , (Bancin, 2022) and (Maisharoh & Ali, 2020) .

Government Regulation
Government Regulation is any regulation issued by the government that regulates all aspects of life in a country. An organization or company is also not free from government regulation. Government regulation is an inseparable part of a company (KS, 2010) .

Regulation is a rule used to control human behavior with various limitations. Regulation can be applied in various forms, for example: government law, industrial law, and so on. Government regulation is all regulations issued by the government to regulate an organization or company, (Nurul Hidayati, 2019) .

Regulations help stakeholders in an organization monitor what it does. Regulations make the organization unclear. So, this is the basis for companies to implement regulations. Basically, regulations are limitations on what an individual or organization can do (Titis Hapsari & Ali, 2023) . It is hoped that these restrictions will serve as guidelines for organizational operations and be a reference for all parties involved in the organization to act and make decisions.

Government regulations have been widely studied by previous researchers, including (Basuki & Patrioty, 2009) , (Hermanto, 2010) and (Ramadhanti & Ali, 2024) .

Review Relevant Articles
To help establish research hypotheses, consider relevant articles and provide an explanation of previous research findings and their relationship to the research plan, as shown in table 1 below.

Table 1: Relevant Research Results

No	Author (Year)	Previous Research Results	Similarities With This Article	Differences With This Article	H
1	(Wahono & Ali, 2021)	The role of information technology such as datawarehouse, software and brainware in decision making	Information technology influences Decision Support Systems	Government organizations and regulations influence Decision Support Systems	H1
2	(Astuti et al., 2019)	Information technology and organizational culture influence Decision Support Systems	Technology and Organization influence Decision Support Systems	Government regulations have an influential influence on Decision Support Systems	H1
3	(Apriyansyah, 2022)	Organization, HR and Knowledge Management influence Decision Support Systems	Organization influences on Decision Support Systems	Information Technology and Government Regulations Influence Decision Support Systems	H2
4	(Nurlifa et al., 2014)	Managers, Organizations,	Organization influence on	Information technology and	H2

		Environment and Experiences on Decision Support Systems	Decision Support Systems	government regulations influence decision support systems	
5	(Titis Hapsari & Ali, 2023)	Government Regulation and Organizational Structure have a positive and significant influence on Decision Support Systems	Government and Organizational Regulations Influence Decision Support Systems	Information Technology influences Decision Support Systems	H3
6	(Devy Igiany, 2019)	Information Technology (hardware, software, data) Government Regulations (Procedures) affect Information Systems	Information Technology and Government Regulations affect Information Systems	Organization influence on Decision Support Systems	H3

Discussion

Based on the theoretical study, the discussion of this literature review article is to review relevant articles, evaluate the influence between variables, and create a conceptual research plan: Based on the research findings, the discussion of this article is to review relevant articles:

The Influence of Information Technology on Decision Support Systems.

Information technology is a type of technology used to process data, which includes the process of collecting, processing, compiling, storing, and manipulating data in various ways to produce quality information, namely information that is relevant, accurate, and timely for the benefit of individuals, companies, or governments.

Information technology has an impact on Decision Support Systems, if Information Technology is perceived well then the Decision Support System will be perceived well too and vice versa.

Information technology is the main foundation in the development of decision support systems. Advances in information technology, such as artificial intelligence, *big data,* and *cloud computing,* provide wider access to data and enable faster and more accurate analysis. Here are some of the positive information technology impacts on decision support systems :

1) Improved decision making
2) Improved accuracy and quality of decisions
3) Reduction of operational costs
4) Increased innovation
5) Sustainability enhancement.

To improve the decision support system by paying attention to information technology, what management must do is improve human resources who understand information technology components such as hardware, computer software, databases and communication networks, where this information technology is used for information processing.

Information technology has an impact on Decision Support Systems, this is in line with research conducted by: (Wahono & Ali, 2021) , (Astuti et al., 2019) and (Septiani, 2023) .

The Influence of Organization on Decision Support Systems.

Dimensions or indicators of the Organization (internal conditions of the organization, human resources, availability of funds, and completeness of the organization and structure organization) influences the dimensions or indicators of the Decision Support System (Personal Knowledge, Job Procedures, Technology).

Organization influences decision support system, if the organization is perceived well then the Decision Support System will be perceived well and vice versa. C influence of organization on decision support system:

1) Increased operational efficiency,
2) Improving the quality of decisions,
3) Adaptation to change,
4) Increased innovation, and
5) Sustainable development

To improve the Decision Support System by taking the Organization into account, management must make changes to the organizational structure to have an impact on improving employee performance, which is supported by the determination of the division of tasks and responsibilities.

Organizations influence Decision Support Systems, this is in line with research conducted by: (Apriyansyah, 2022) , (Nurlifa et al., 2014) and (Titis Hapsari & Ali, 2023) .

The Influence of Government Regulation on Decision Support Systems.

Government Regulation is one of the important elements that influence an organization. It relates to the procedures and rules that must be obeyed by all stakeholders in the organization in running its business.

Government regulations have a significant influence on the development and implementation of decision support systems in various sectors. Clear policies and regulations can improve the effectiveness and efficiency of decision support systems.

Government Regulations affect Decision Support Systems, if Government Regulations are perceived well then Decision Support Systems will be perceived well too, and vice versa. This can explain that the decision-making system will be made in accordance with applicable Government Regulations. Government regulations provide positive influences and impacts in the implementation of decision support systems. The following are the positive influences and impacts of government regulations on decision support systems:

1) Process standardization
2) Better decision quality
3) Increased transparency/accountability
4) Support and innovation
5) Legal protection
6) Improving HR competency

Government regulations play a role in Decision Support Systems, this is in line with research conducted by: (Titis Hapsari & Ali, 2023) and (Devy Igiany, 2019).

Conceptual framework of the research

The conceptual framework of this article is arranged as shown in Figure 1 below based on the problem formulation, discussion, and relevant research.
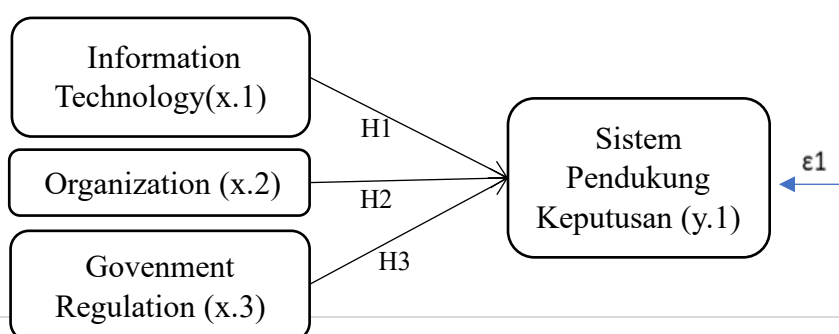
Figure 1: Conceptual Framework

Based on framework image above, can be concluded that: Information technology, Organization, and Government Regulation influence the Decision Support System. Apart from the three variables that influence the Decision Support System, there are still many variables others, including:
1) Big Data (x4) : (Mafda Khoirotul Fatha, et al., 2023) ,
2) Warehouse (x5) : (Sri Wahono, Ali, et al., 2021)
3) Brainware (x6) : (Ali et al., 2018)
4) Artificial Intelligence (x7) : (Devi Septiani, 2023)
User Interface (x8) : (Alfian Nurlifa, Sri Kusumadewi, et al., 2014)

CONCLUSION
The conclusion of this article is to formulate a hypothesis for further research, namely:
1) Information technology influences Decision Support Systems;
2) Organizations influence Decision Support Systems; and
3) Government regulations influence Decision Support Systems.

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