

Effectiveness of Web-Based Decision Making To Deliver Decision-Support Information to Business Analyst Using a 'Thin-Client

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Abstract

The study examines the effectiveness of “web-based decision support systems” on business companies as well as the usage of thin-client in the process. It is identified that the web-based DSS process provides essential information and helps the managers to make effective decisions for the companies. On the other hand, a thin client is a computer that runs based on the stored data in a central server instead of a hard disk. The researcher has used methods and techniques to gain knowledge and information about the web-based DSS and thin-client which are discussed in a thematic way. Apart from that, the system theory of management is used by the researcher to understand and analyze the concept of the research topic accurately.

Keywords

Decision support, decision-making process, effects, information, thin-client, web-based DSS.

INTRODUCTION

Decision-making is one of the most important and significant processes in business companies and the process requires collaboration. During the pandemic situation, social distance and other maintenance were mandatory and because of that decision-making in a traditional way was not possible. The usage of technology and computers has started to make decisions in that situation which is called the “**web-based decision support system**” or “**web-based DSS**”. Apart from that, a computer with a previously installed web browser along with web software is called a **thin client**. The purpose of the research article is to analyze the importance of decision-support information provided by thin-client in the web-based decision-making process for business companies.

Rationale

The usage of technology in business companies can be identified in India as well as in the world. The increment of the usage of technology indicates the usage of decision-support information technology in business companies. During the pandemic situation when all the business companies were closed for a certain time then the GDP of India has decreased and became **nearly -3.27% in 2020**. Furthermore, the usage of technology-based processes has enhanced during the pandemic situation and that impacted the GDP of the country positively and the GDP of India became about **6.03% in 2021** (Statista, 2021). Thus, lack of computer knowledge in managers and other employees is an issue that companies face for using “web-based DSS” processes. Therefore, it can be identified that the usage of web-based DSS refers to the growth of business companies as well as the growth of the GDP of the countries.

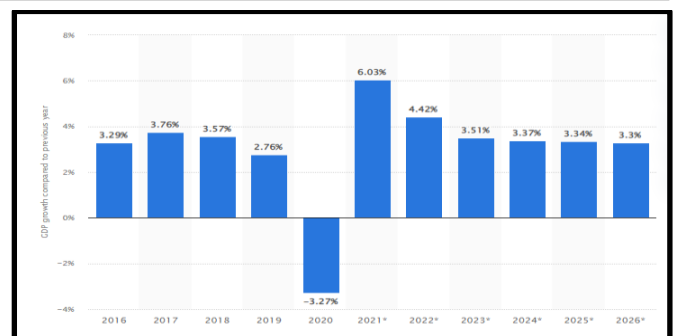


Figure 1: GDP performance of India
(Source: Statista, 2021)

Aim and objective

The aim of the study is to investigate the effectiveness of a “web-based decision support system” in businesses by using a thin client.

Objectives

- To describe the importance of a “web-based decision support system” for business companies
- To understand the effectiveness of “web-based decision-making process” on the performance of the businesses
- To analyze the usage of a thin-client in a “web-based decision support system”

Research questions

Research questions of the research article are,

- What is a “web-based decision support system” and how is it important for businesses?
- How “web-based decision support system” impacts business performance?
- What is a thin client and how is it used in a “web-based decision support system”?

LITERATURE REVIEW

Concept of Web-based Decision support system

“Web-based decision support system” or “web-based DSS” is a process that provides information for better decision making. The process is mainly used in management decision making and this is a computer-based system (Xu *et al.* 2020). The “web-based DSS” process helps the business companies to gain knowledge about GDP and other expenses of the companies and based on that the companies can make decisions and plan for the development of the companies. There are two specific components of web-based DSS such as “*Database Management System (DBMS)*” and “*Model Management System*” (Güler *et al.* 2021). The DBMS helps to solve the problems of internal and external databases. Apart from that, the “Model Management System” helps to store and access models that the managers of business companies can use to make decisions. The usage of “Web-based DSS” supports the decisions of the managers of business companies helps them by providing necessary information.

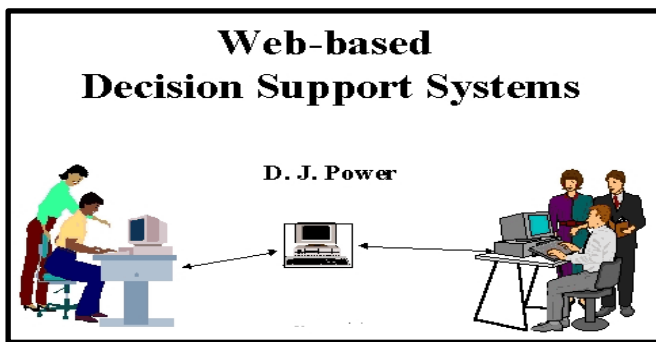


Figure 2: Web-based decision support system
(Source: Güler *et al.* 2021)

Idea about 'thin-client

The concept of thin-client refers to the web-based computer that runs based on software applications. The characteristics of a thin client are *a monitor, a mouse, a small amount of memory, and a keyboard*. All the thin-client computers are connected with a switch network as well as a specific server (Figure 3). There are different beneficial sites of using thin-client in business organizations such as *cost-saving* which impacts the economic growth of the companies positively (Jiang *et al.* 2019). The usage of thin-client can reduce the costs of IT support, upfront purchasing costs, capital costs, and others which is beneficial for the business companies. In addition to that, the usage of thin-client helps to *reduce energy bills* as well as helps to *simplify the process of management* in business organizations (Coughlan, 2018). Thereafter, thin-client can be used in web-based DSS process which makes able the computers to provide essential information to the managers for making effective and efficient decisions.

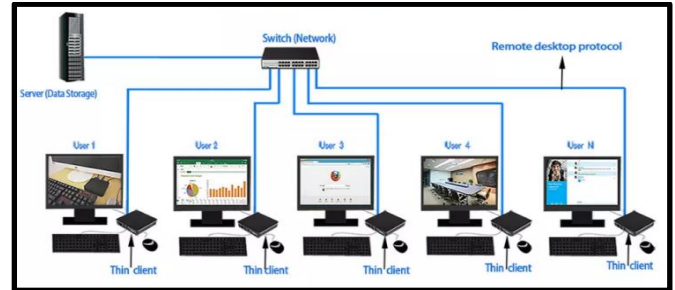


Figure 3: Concept of thin-client
(Source: Jiang *et al.* 2019)

Pros and cons of web-based DSS

The usage of “Web-based DSS” is beneficial for business companies as well as there are some limitations of the process. The mentioned process *enhances the efficiency of the managers* to make appropriate decisions for the business companies which is the biggest beneficial site of the process (Talari *et al.* 2021). Gaining knowledge about the costs and expenses of the companies is important for making an effective decision and the computer-based process *provides information about GDP costs and other expenses* that help to make effective decisions (Soyemi, 2018). Apart from that, the process helps to *increase the capability, competitiveness of decision-making* of business organizations. Decision-making is one of the most important aspects of a business organization as the growth of the organization is based on decisions. In addition to that, it makes the process of decision-making speedy which is also beneficial for business organizations.

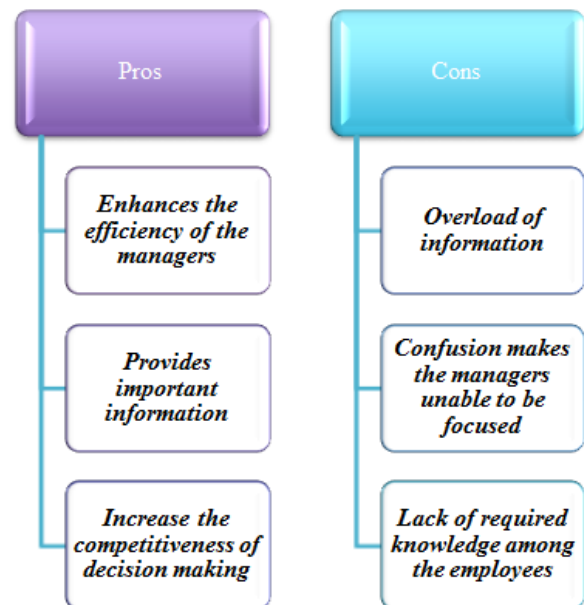


Figure 4: Pros and cons of web-based DSS
(Source: Self-made)

On the other hand, *overload of information* is a disadvantage of the web-based decision support system. The process of providing information about different aspects is effective for the managers but the overload of information

can confuse the managers and that impacts the decision-making process negatively. The managers must be focused while making decisions for the business organization but the *confusion makes the managers unable to be focused* (Dastres, 2021). Apart from that, the usage of web-based DSS requires effective computer knowledge and technological knowledge as well. Therefore *lack of required knowledge among the employees* is another limitation of the mentioned process.

Theoretical framework

System theory of management is selected by the researcher in this research article to understand and analyze the concept of the topic appropriately. The mentioned theory of management helps to gain knowledge about the elements that impact management as well as about the accurate environment in the workplaces. The three phases of the theory are *inputs, transformation, and output* (Yaşar, 2017). The theory helped the researcher to understand the process of web-based DSS process which is also based on three phases.

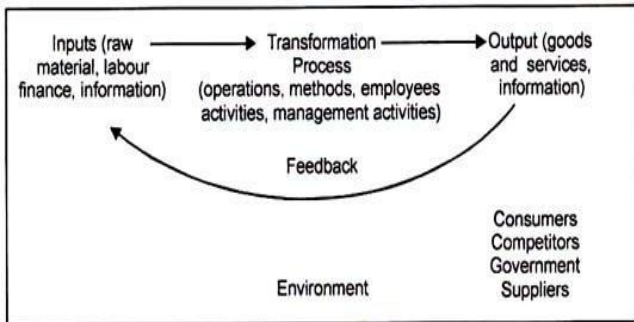


Figure 5: System theory of management
(Source: Yaşar, 2017)

Literature gap

The study is focused on the concept of the web-based DSS process and the usage of thin-client in the process. Although the concept of thin-client and web-based DSS is discussed, the usage of the process in management is not explained in the literature review part which remains a literature gap in this portion.

METHODOLOGY

The researcher has used different methods and found out that the usage of “web-based DSS” processes is becoming higher day by day. A specific journal is selected that is based on the concept of the DSS process using thin-client. It is identified that the usage of the DSS process requires effective knowledge of computers and the implementation of the web-based DSS process helped the companies to enhance productivity as well as profitability (Vuong *et al.* 2021). Identifying key issues and solving the issues is important for the development of a business organization and according to the journal the usage of “web-based DSS” makes the employees able to make effective decisions and that leads to the development of the business companies.

DATA ANALYSIS

Theme 1: Effect of Web-based Decision support system on businesses

“Web-based decision support system” is positively effective on business and business performance. Making appropriate decisions for business companies is important for the development of business companies. There are different criteria that the managers of a business organization have to maintain before making decisions and among them estimating the expenses and identifying the key issue of the companies are important for making appropriate decisions (Kumar, 2020). Business companies need to hire experts to identify the issues and estimate the expenses of the companies which are expensive. Thereafter, the usage of web-based DSS processes is less expensive than the traditional way of decision making which *affects the economic growth of the business companies positively*.

On the other hand, the usage of web-based DSS processes requires effective technological and computer knowledge among the employees. All the employees in a company may not have appropriate technical and computer knowledge and because of that, the companies organize training programs for the employees. Thus, it can be said that the usage of *web-based DSS processes promotes the training programs* in business organizations which is ultimately beneficial for the growth of the company (Suryanto, 2018). Furthermore, the training sessions in business organizations lead to the development of the skills and knowledge of the employees which are important for the development of the productivity of the company. It can be identified that the usage of the *web-based DSS process leads to the enhancement of productivity* of business companies through some steps.

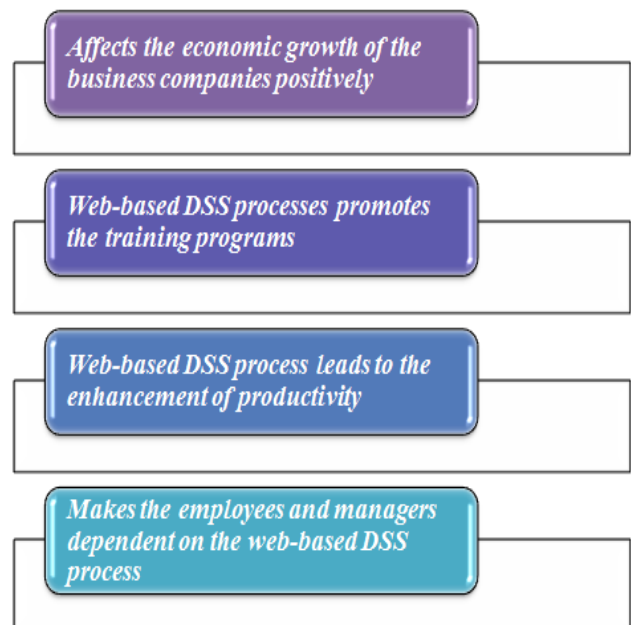


Figure 6: Effects of Web-based DSS process on businesses
(Source: Self-made)

There are some negative effects of using web-based DSS processes on business companies. Firstly, the continuous use of the DSS process **makes the employees and managers dependent on the web-based DSS process** for collecting information (Belouettar *et al.* 2018). Market research is the traditional way of collecting information about customers and markets which is important. Thus dependent on a web-based DSS process, the employees do not do market research properly which can negatively impact the profitability level of the business companies.

Theme 2: Usage of 'thin-client in Web-based decision support system

“Web-based support system” refers to the web-based computers that provide essential information for making effective decisions for business companies. Thin-client refers to the computers that are web-software based (Jones *et al.* 2017). Thereafter, thin-client or web-software-based computers can be used to collect essential information for decision making which is called the web-based DSS process. Thin-client computers are connected with the server and also help to store the models that are used for further use by the managers that can help the managers to make decisions efficiently.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study examined the importance of web-based DSS processes for business organizations and it is identified that the process is effective to enhance the efficiency of the managers. Although the process helps to enhance the growth of profitability of businesses, some businesses fail after using web-based DSS processes. Apart from that, it is also identified that less technological and computer skills among the users of the system is a reason for some failure in business companies after using the web-based DSS process.

Recommendations

It is immensely important to have effective technological and computer knowledge among the employees for using web-based DSS processes. Thus, it is identified that the lack of effective skills among the employees is one of the biggest reasons for the failure of using web-based DSS processes. The business companies should **arrange training programs for the employees** to enhance the technological and computer skills of the employees.

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