

# The Impact of Decision Support Systems (DSS) on Employee Work Effectiveness

(Case Study of Telco 2 Segment 3 Operations at PT. Infomedia Nusantara)

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## ARTICLE INFO



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## ABSTRACT

*This study examines the impact of decision support systems (DSS) on employee work effectiveness at PT Infomedia Nusantara. The study employs a quantitative causal design, with the research subjects being employees of PT Infomedia Nusantara in Operational Division Telco 2 Segment 3 and the research object being DSS and employee work effectiveness. The research population is all employees on Operational Division Telco 2 Segment 3, totaling 128 people. Data were collected through interviews, document recording, and questionnaires and then analyzed using simple regression analysis. The results of the study show that DSS has a significant influence on employee work effectiveness.*

## ABSTRAK

*Penelitian ini bertujuan untuk menguji pengaruh sistem pendukung keputusan (DSS) terhadap efektivitas kerja karyawan di PT Infomedia Nusantara. Penelitian ini menggunakan desain kausal kuantitatif, dengan subjek penelitian adalah karyawan PT Infomedia Nusantara pada Divisi Operasional Telco 2 Segmen 3 dan objek penelitian adalah DSS dan efektivitas kerja karyawan. Populasi penelitian adalah seluruh karyawan di Divisi Operasional Telco 2 Segmen 3 yang berjumlah 128 orang. Data dikumpulkan melalui wawancara, pencatatan dokumen, dan kuesioner, kemudian dianalisis dengan menggunakan analisis regresi sederhana. Hasil penelitian menunjukkan bahwa DSS memiliki pengaruh yang signifikan terhadap efektivitas kerja karyawan.*

## INTRODUCTION

In the era of globalization, various aspects of life have undergone significant transformations. Rapid advancements in science and technology have fueled increasingly fierce business competition. This condition demands that companies and organizations empower and optimize all their assets, especially human resources (HR), which play a crucial role. Strengthening strategic HR is critical to ensuring that companies do not fall behind in the competitive whirlpool. At PT Infomedia Nusantara, a subsidiary of PT Telkom Indonesia engaged in the Business Process Outsourcing (BPO) sector, employee performance effectiveness is a significant concern. This is because good employee performance directly impacts the quality of service provided to customers and ultimately contributes to the company's success. This has been proven true at Infomedia, where the company has been trusted by more than 600 small to large companies and government agencies to manage their business processes. Public satisfaction and trust are increased to improve the effectiveness of public services. In the enterprise sector, there are still many opportunities for management in the local enterprise segment, such as Yogya Group, Kalla Group, and others. The quality of public services is often hampered by problems related to employee effectiveness. This is an obstacle in building harmonious relationships with customers. Effectiveness is a fundamental factor in the provision

of public services, playing an important role in achieving the goals and objectives that have been set. Effectiveness means the ability to choose the right targets in carrying out work (Siswanto, 2019:55). The effectiveness that occurs in the Company where employees are still seen to be less disciplined in their work or attendance in their work can be seen as follows.

**Table 1. Effectiveness of Work on Employees**

Month	Scheduled Arrival Time		Actual Arrival Time		Number of Late Arrivals
	08.00	16.00	08.00	16.00	
July	127	127	3	0	3
August	128	128	2	0	2
September	125	125	5	1	6
October	128	128	6	1	7
November	128	128	0	3	3
December	128	128	12	0	12

Source: HRD

In table 1, it is evident that some employees are still arriving late to work, indicating a lack of discipline among these employees. This can lead to a decline in the company's performance and hinder the company's management information system. As defined by Siagian (2002:151), the achievement of predetermined goals within a chosen time frame by utilizing the resources allocated for the organization's operations.

The decline in employee effectiveness is suspected to be due to a corresponding decline in the Decision Support System (DSS). This is caused by new employees who have not yet been able to adapt to the company environment. This is further supported by the results of interviews with employees in the field, which found that employees are still not in line with their superiors, which can trigger problems in the existing system. This study focuses on the influence of Decision Support Systems (DSS) on employee work effectiveness.

Decision Support Systems (DSS) are specialized tools for managers to solve complex problems that follow a specific pattern. DSS helps managers make optimal decisions. This system is not intended to replace decision-makers roles but rather to support them in the decision-making process. According to Ratna (2023), Decision Support Systems (DSS) are computer software designed to support the decision-making process. This system does not replace human decisions but rather helps handle various existing problems using available data and models. Sparague (in Ratna, 2023) emphasizes that DSS is not intended to replace decision-makers but rather to help them analyze information and make more informed decisions. The main reason for this research is to determine whether DSS affects employee work effectiveness. This research assumes that DSS can help employees complete their tasks more quickly and efficiently, ultimately improving their overall performance.

## LITERATURE REVIEW

### *Decision Support System (DSS)*

Decision Support Systems (DSS) are computer-based tools designed to assist managers in semi-structured decision-making processes. They excel in providing timely and accurate information compared to humans, but they cannot make final decisions on their own. (Source: Ratna, 2023). According to Scott in Dwi (2013), a Decision Support System (DSS) can be defined as an interactive software tool that facilitates problem-solving using data and decision models. The primary goal of DSS is to enhance the effectiveness of decision-making. Based on the definition provided by Alavi and Napier (1998), a Decision Support System (DSS) is a tool that

comprises a series of procedures for processing information and data. Decision Support Systems are designed to aid management in decision-making by utilizing existing models to generate various alternative solutions. Ideally, these systems are designed with simplicity, ease of use, and adaptability to change. Little (2013) defines a Decision Support System (DSS) as a software tool that presents decision-makers with multiple options as a reference or guide in making decisions to address their problems. The system works by utilizing available data and models.

Decision Support Systems (DSS) are computer-aided tools designed to support, not replace, the decision-making process in various situations. DSS utilizes data and models to present relevant information tailored to decision-making needs. In other words, DSS does not make decisions for its users; instead, it provides the necessary information and support to enable users to make optimal decisions. A Decision Support System (DSS) is a powerful tool that assists managers in making optimal and consistent decisions quickly. It is versatile and capable of assisting in various situations by merging human judgment with computerized data processing. A DSS is designed to be used by all levels of management and can be customized to meet their specific information and support needs. It can be utilized by individuals or groups to aid the decision-making process, supporting both independent and sequential decision-making. A DSS is flexible, supporting decisions that are made once or repeatedly, and it covers all stages of decision-making, from information gathering to solution implementation. It caters to various decision-making processes and styles. One of the key strengths of a DSS is its adaptability to change, allowing users to modify and extend the system as needed. Furthermore, a DSS is designed with a user-friendly interface that provides comfort and confidence to users, enhancing their decision-making experience. According to Kusrini (2007:108), Decision Support Systems (DSS) are designed to assist by presenting multiple decision options and providing relevant information and analysis. Decision Support Systems can be used to provide both simple and complex decision options. Data and models are the two main components of this system. Data can be sourced from both internal and external sources of the organization. DSS can perform what-if and goal-seeking analysis to help decision-makers evaluate various options and find the optimal solution.

#### *Work Effectiveness*

Effectiveness is the ability to complete tasks accurately and achieve predetermined goals. This is in line with Siswanto's (2007:55) view in his book "Pengantar Manajemen," which defines effectiveness as "doing the right work." Robbins (2006:36) further explains that effectiveness is optimizing an organization's resources to achieve maximum results as efficiently as possible. According to James (Herbani, 2010:4), effectiveness is measured by the achievement level of targets. Siagian (2002:151) defines it as achieving goals on time and with optimal resources. Sarwoto (2005:64) emphasizes effectiveness as good service, meeting needs, and high quality in achieving organizational goals. Siswanto (2018:61) identifies several indicators of work effectiveness: clarity of planning, clear work procedures, employee skills and training, good cooperation, high work spirit, and good work discipline.

## **RESEARCH METHOD**

This research employs a quantitative approach, collecting and analyzing data numerically. A causal research design examines the cause-and-effect relationship between the investigated variables. Data is gathered from a sample using research instruments and analyzed quantitatively to test the formulated hypotheses. The primary objective of this design is to comprehend the relationship between the influencing variable (independent variable) and the influenced variable (dependent variable). The research stages encompass problem formulation, literature review, hypothesis formulation, data collection, data processing, and conclusion

drawing (Sugiyono, 2018). The research involves one independent variable (decision support system) and one dependent variable (work effectiveness). The research subjects are the employees of PT Infomedia Nusantara, while the research objects are the decision support system and work effectiveness. The research population is the entirety of PT Infomedia Nusantara's employees who possess specific qualities and characteristics determined by the researcher. This research involves a population of all PT Infomedia Nusantara employees, totaling 128 individuals. Data is collected through interviews, document reviews, and questionnaires. Data analysis uses multiple linear regression analysis employing SPSS 23.0 for Windows.

## RESULTS AND DISCUSSION

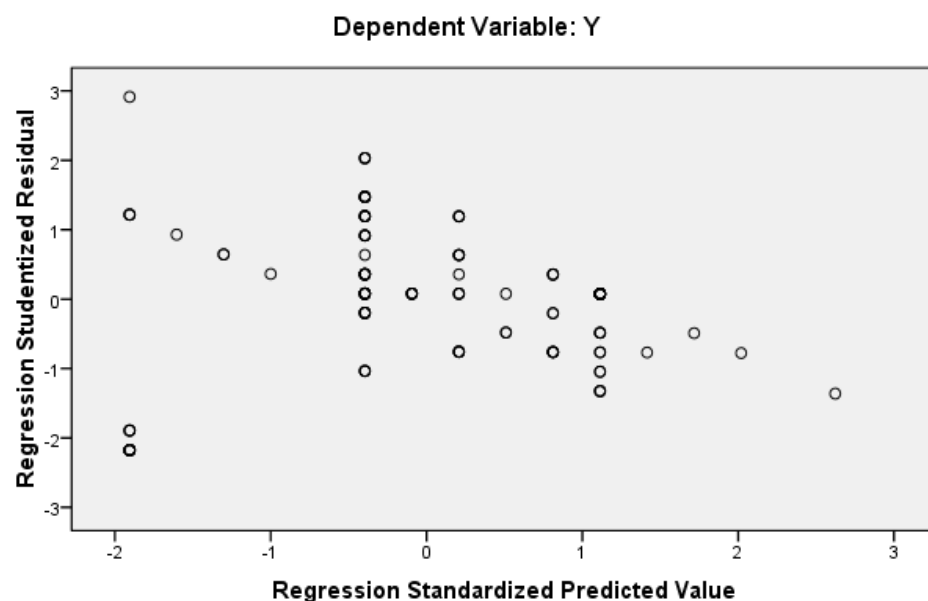
### *Normality Test*

Based on the normality test results in this study, the significance value was  $1.936 > 0.05$ . Therefore, it can be concluded that the residual values are normally distributed.

### *Multicollinearity Test*

Based on the multicollinearity test results, the tolerance value of the operational cost variable is greater than 10 ( $1.0 > 0.1$ ) and the VIF value is less than 10 ( $1.00 < 10$ ). Based on this data, it can be concluded that there are no symptoms of multicollinearity in the simple regression model of this study.

### *Heteroscedasticity Test*



**Figure 1. Heteroscedasticity Test Result**

The results of the heteroscedasticity test show that the data points are randomly distributed above and below the zero line on the Y-axis. This indicates that there is no heteroscedasticity in the simple regression model. In other words, the heteroscedasticity assumption is met, so the regression model can proceed to the next testing stage.

#### *Hypothesis Test: Partial Effect of Decision Support System (X) on Employee Work Effectiveness (Y)*

The simple linear regression test results showed that the magnitude of the partial relationship of the decision support system was 10.399 with a p-value of  $0.000 < \alpha 0.05$ . This indicates that  $H_0$  is rejected, which means there is a positive partial influence effect from the decision support system (X) on employee work effectiveness (Y). This finding implies that the cost of the decision support system (X) will impact decreasing employee work effectiveness (Y) with an influence relationship of 68.0% and the remaining external influence of 32.0%.

## **DISCUSSION**

Based on the research findings, there is a positive and significant simultaneous influence of decision support systems (DSS) (X) on employee work effectiveness (Y). This is in line with the theory proposed by Richard in Ratna (2023), which states that work effectiveness in an organization is influenced by organizational characteristics. This can be interpreted as how the organizational structure is formed and how employees interact within it. This organizational structure determines employees' work patterns and behaviors in achieving common goals.

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