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STRATEGY FOR IMPLEMENTING INFORMATION TECHNOLOGY TO IMPROVE COMPANY OPERATIONAL EFFICIENCY

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Abstrak

This research aims to analyze the impact of information technology implementation on improving operational efficiency in companies across Indonesia. With the rapid advancement of technology, many companies face challenges in maintaining competitiveness through operational efficiency. This study employs a quantitative method with a survey approach involving 150 companies located in several major cities in Indonesia. Data was collected through online questionnaires and analyzed using a multiple linear regression model. The results indicate that the implementation of information technology has a significant impact on enhancing operational efficiency, with a focus on reducing operational costs, increasing productivity, and more effective resource management. This conclusion underscores the importance of investment strategies in information technology to support the growth and sustainability of companies in the digital era.

Keyword : Information Technology, Operational Efficiency, Productivity, Technology Investment, Linear Regression

INTRODUCTION

The study employs a quantitative approach using a survey method. The survey was conducted with 150 companies from various industry sectors, such as manufacturing, services, and trade, operating in major cities in Indonesia including Jakarta, Surabaya, and Bandung. The respondents selected were managers or department heads who have direct responsibility for the implementation of information technology in their companies.

The questionnaire used in this survey consists of several main sections: company background, level of information technology implementation, impact of information technology on various operational aspects, and managers' perceptions of operational efficiency post-implementation. Each question in the questionnaire was measured using a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree."

The data obtained from the questionnaire were then analyzed using multiple linear regression models to determine the extent to which independent variables (information technology implementation) influence the dependent variable (operational efficiency). This regression analysis allows researchers to identify specific factors within information technology implementation that have the most significant impact on operational efficiency.

RESEARCH METHODS

This study utilizes a quantitative research approach with a survey method to analyze the impact of information technology (IT) implementation on operational efficiency within companies

across Indonesia. The research was conducted with 150 companies spanning various industry sectors, including manufacturing, services, and trade, located in major Indonesian cities such as Jakarta, Surabaya, and Bandung.

Survey Design and Data Collection

The survey instrument was a structured questionnaire designed to collect comprehensive data on several aspects of IT implementation and its effects on operational efficiency. The questionnaire was divided into four key sections:

1. Respondent Information: This section gathered background information on the companies, including industry sector, company size (number of employees), and operational history. This data provided context for analyzing the effects of IT implementation within different organizational settings.

2. Level of Information Technology Implementation: This section assessed the extent to which companies have integrated IT into their business processes. Key areas measured included the use of Enterprise Resource Planning (ERP) systems, Customer Relationship Management (CRM) systems, and Management Information Systems (MIS). Respondents rated their company's IT implementation on a scale from "not implemented" to "fully implemented."

3. Impact of Information Technology on Operational Efficiency: This section evaluated the perceived impact of IT implementation on various aspects of operational efficiency, such as cost reduction, productivity improvements, and resource management effectiveness. Respondents used a 5-point Likert scale to express their agreement with statements related to these impacts.

4. Challenges in Information Technology Implementation: This section identified the primary challenges encountered in the implementation of IT systems, including initial investment costs, resistance to change, and the need for employee training. This section aimed to highlight obstacles that may hinder the successful integration of IT solutions.

Data Analysis

The collected data were analyzed using multiple linear regression models to examine the relationship between IT implementation (independent variables) and operational efficiency (dependent variable). Multiple linear regression was chosen to identify which specific aspects of IT implementation had the most significant effects on operational efficiency.

The regression analysis was conducted to determine the coefficients and significance levels of various IT-related factors. Key variables examined included business process automation, system integration, and data analytics usage. The significance of these variables was assessed using p-values to ensure that the identified impacts were statistically reliable.

RESULTS AND DISCUSSION

The study aims to examine the impact of information technology implementation on the operational efficiency of companies in Indonesia. To achieve this goal, a survey was conducted with 150 companies across various sectors, such as manufacturing, services, and trade, operating in major Indonesian cities including Jakarta, Surabaya, and Bandung. The survey

utilized a questionnaire designed to measure different aspects of information technology implementation and its impact on the operational efficiency of companies.

Data Collection Method

The questionnaire used in the survey consisted of four main sections:

1. Respondent Information: This section collected information about the company's background, such as industry sector, company size (number of employees), and operational history.

2. Level of Information Technology Implementation: This measured the extent to which companies have integrated information technology into their business processes. Aspects measured included the use of ERP (Enterprise Resource Planning) software, CRM (Customer Relationship Management) systems, and MIS (Management Information Systems).

3. Impact of Information Technology on Operational Efficiency: This section assessed the specific impact of information technology implementation on various operational aspects, such as cost reduction, productivity improvement, and resource management effectiveness. A 5-point Likert scale was used to gauge respondents' agreement with the provided statements.

4. Challenges in Information Technology Implementation: This section identified the main challenges companies faced in implementing information technology, such as initial investment costs, resistance to change, and the need for employee training.

Data Analysis

The data collected was analyzed using multiple linear regression models to determine the relationship between independent variables (information technology implementation) and dependent variables (operational efficiency). This linear regression model was used to identify specific factors in information technology implementation that have the most significant impact on operational efficiency.

The analysis results indicated that variables such as business process automation (with a coefficient $\beta=0.65$, $p<0.01$), system integration ($\beta=0.58$, $p<0.05$), and data analytics usage ($\beta=0.72$, $p<0.01$) significantly impact operational efficiency. For instance, business process automation was found to reduce the time required to complete routine tasks by up to 40%, directly leading to a decrease in operational costs.

Discussion

The findings support previous studies that suggest information technology implementation can significantly enhance operational efficiency. By automating business processes, companies can reduce costs associated with human errors and increase the speed and accuracy of data processing. Additionally, system integration enables more efficient information flow between departments, which in turn improves coordination and decision-making.

The use of data analytics also proved to have a significant impact. Companies that actively utilize data for analysis and decision-making reported a productivity increase of up to 30%. This indicates that effective data management and utilization are key factors in enhancing operational efficiency.

However, the study also identified several challenges in information technology implementation, particularly related to high investment costs and resistance to change. Many companies struggle with allocating sufficient budgets for new technologies and addressing internal barriers, such as employee resistance to change. Furthermore, the need for employee training to operate new technologies was also a common challenge.

To address these challenges, a comprehensive implementation strategy is needed, including thorough planning, adequate resource allocation, and effective training programs. A phased approach to information technology implementation, starting with the most critical operational areas, can also help companies evaluate and adjust their strategies based on the results obtained.

CONCLUSION

The study concludes that the implementation of information technology has a significant impact on enhancing operational efficiency in companies in Indonesia. Information technology enables companies to automate business processes, improve system integration, and utilize data analytics for better decision-making. However, to maximize these benefits, companies need to address various challenges such as investment costs, employee training, and resistance to change.

SUGGESTION

1. Intensive and Continuous Educational Programs on Cybersecurity: Such programs should include periodic training and updates to ensure students remain informed about the latest cyber threats and protective measures.

2. Use of Diverse and Engaging Media in Socialization Activities: Media such as interactive videos, cyber threat simulations, and online seminars can increase student engagement and the effectiveness of socialization efforts.

3. Further Research to Identify Additional Factors Influencing Cybersecurity Awareness: Additional research can help understand other aspects contributing to awareness levels and how socialization strategies can be improved.

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