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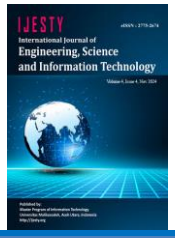

Information Technology Investment Assessment Using Val IT Framework

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Abstract

Organizations must evaluate information technology (IT) expenditures to ensure that IT resources' use contributes value and is in line with their strategic goals. This paper investigates how the Val IT Framework can be used as an efficient tool for managing and evaluating IT investments. Val IT offers a thorough framework for assessing IT initiatives' advantages, disadvantages, and risks and their influence on accomplishing company objectives. We examine how the Val IT Framework may enhance accountability, facilitate IT performance monitoring, and increase transparency in investment decision-making through case studies of multiple businesses. The findings demonstrate that the application of Val IT fosters the advancement of improved IT management techniques and raises knowledge of the worth of IT investments. To attain optimal and sustainable outcomes, IT managers and stakeholders are advised by these findings to utilize a framework-based approach when evaluating investments. However, several challenges remain before the framework can be implemented, including a lack of funding, knowledge about it, and opposition to change. Organizations must, therefore, develop a comprehensive plan. To facilitate change adaptation, this plan should offer incremental implementation, adequate training to enable all stakeholders to better understand Val IT and enough resources to support adoption. These steps can assist businesses in more successfully overcoming their existing challenges. By adopting the right approach, businesses may maximize their IT investments and ensure that every dollar invested contributes significantly to achieving their strategic goals. The Val IT Framework serves as both an assessment tool and a roadmap for better, long-lasting results in IT management when used appropriately. This illustrates how crucial it is to make the investment necessary to implement this framework if the business is to be successful and viable in the long run.

Keywords: *IT Investment, IT Planning, Framework, Business Case, Stakeholders.*

1. Introduction

In the ever-evolving digital era, information technology (IT) has become a key element for the sustainability and growth of organizations. IT plays a vital role in improving operational efficiency through business process automation, better data management, and workflow optimization. In addition, this technology opens up opportunities for organizations to reach wider markets and respond to consumer demand more quickly and effectively [1]. More than just an operational tool, IT is now a driver of innovation and differentiation in the market. Through the implementation of the right digital solutions, companies can develop new products and services, create more personalized customer experiences, and compete better in a dynamic business environment with the right digital solutions. In this regard, organizations that are able to utilize IT well have a fantastic opportunity to differentiate themselves from competitors [2]. However, with the increasing complexity of IT investments, a systematic assessment of the value generated is very important. Organizations need to conduct a comprehensive analysis of the costs and benefits of IT investments, not only in the short term but also in the long term. Additionally, it is crucial to take into account the risks associated with technology, like cybersecurity and reliance on digital systems, to ensure that the investment truly aligns with the organization's strategic objectives and yields optimal value [3][4].

The Val IT Framework is one of the increasingly used approaches in IT investment assessment. Developed by The IT Governance Institute, this framework provides comprehensive guidance for managing and evaluating IT investments, with the primary goal of ensuring that they support the achievement of the organization’s business objectives [5]. Val IT assists organizations in assessing the value of their investments and their alignment with the long-term business strategy. The Val IT Framework emphasizes the importance of accountability in IT investment management, ensuring that all parties involved have clear responsibility for the decisions made and results achieved [6]. Furthermore, the framework promotes transparency in the decision-making process, enabling organizations to

discern the process of making IT investment decisions, grounded in quantifiable data, and executing them in compliance with relevant standards. This creates trust among stakeholders and ensures that investments are based on accurate information [7]. In addition, performance measurement is a key element in the Val IT Framework, as it allows organizations to objectively assess the impact of IT investments on operations and the achievement of strategic objectives [8]. Val IT not only facilitates the alignment of IT investments with the business, but also guarantees robust analysis to support investment decisions, thereby generating significant added value for the organization [9].

Although many organizations have adopted information technology (IT) as an integral part of their strategy, assessing the value and impact of IT investments remains a significant challenge. One major obstacle is the lack of a clear understanding of how to measure IT benefits and link them to broader business objectives [10]. People often perceive IT investments as necessary expenses, yet quantifying their impact on growth, innovation, or competitive advantage can be challenging. Another challenge that organizations often face is the risks associated with IT projects, such as implementation failures, cost overruns, or outcomes that do not meet initial expectations. The dynamic and evolving nature of IT often complicates the identification and management of these risks, making it challenging to predict long-term impacts. As a result, many organizations fail to maximize the potential of their IT investments. In this context, the Val IT Framework offers a structured and comprehensive solution [11]. With an approach that focuses on risk management, evaluation, and management, Val IT helps organizations identify the measurable benefits of each IT investment and link them to the organization's strategic objectives. In doing so, Val IT not only helps organizations optimize the value of IT investments but also enhances their ability to manage the risks associated with IT projects. The Val IT Framework consists of three main domains: value, risk, and performance, each of which provides tools and methods to help organizations make better decisions about IT investments. In the value domain, the primary focus is on identifying the expected benefits of each IT investment [12]. Here, Val IT helps organizations evaluate these benefits in a measurable and objective way, ensuring that IT investments make a real contribution to achieving business objectives. This process involves a thorough analysis of how investments support growth, efficiency, or innovation. In the risk domain, the framework provides guidance for identifying and managing risks that may arise at each stage of an IT investment. Risks such as project failure, implementation issues, and changing business needs often present significant barriers. Val IT provides tools to assess these potential risks early on and develop effective mitigation strategies so that organizations can address them proactively rather than reactively. Finally, in the performance domain, Val IT offers metrics and indicators that allow organizations to assess how well IT investments are achieving their stated objectives. This includes measuring efficiency, user satisfaction, and the financial impact of IT investments. Organizations can make necessary adjustments by continuously monitoring performance to ensure that investment outcomes are in line with expectations and continue to support the organization's long-term strategy [13].

The application of the Val IT Framework in IT investment assessment can provide several significant benefits to organizations. First, by adopting this framework, organizations can increase transparency in the investment decision-making process. Val IT provides stakeholders with a clear understanding of the reasons behind each investment decision and how it contributes to the achievement of long-term business goals. This helps in creating trust and support from all parties involved. Second, Val IT strengthens accountability throughout the IT investment process. We can hold every individual or team involved in IT investment accountable for their role and contribution to the achieved results. Organizations can strengthen their commitment to achieving optimal results by emphasizing accountability and making decisions based on careful evaluation. Third, the application of Val IT encourages the development of better IT management practices, including in terms of risk management and performance measurement. Val IT helps organizations identify risks early on and implement appropriate mitigation strategies, as well as use clear metrics to assess the performance of IT investments. Thus, organizations can manage IT investments more effectively, ensuring that each investment generates maximum added value and is in line with the company's strategic vision. This study aims to explore the application of the Val IT Framework in IT investment assessment through case study analysis in several organizations [14]. By evaluating the application of Val IT, this study focuses on how this framework can improve the effectiveness of IT investment management, including in terms of transparency, accountability, and performance measurement. We anticipate that this study's results will offer valuable insights to IT managers and other stakeholders, enabling them to make more strategic and appropriate investment decisions. This study will discuss several key questions that are relevant to Val IT's application. First, what are the benefits of implementing Val IT in IT investment assessments? This question will reveal the positive impacts that Val IT can generate, such as improved risk management and investment value creation. Second, this study will investigate the challenges that organizations face in implementing Val IT, ranging from resistance to change to difficulties in objectively measuring IT benefits. Finally, this study will discuss how organizations can overcome these challenges in order to maximize the value of their IT investments. Implementing strategies to strengthen Val IT adoption, increase stakeholder engagement, and align IT investments with the organization's long-term business objectives is part of the study [12].

Organizations can achieve optimal results and support long-term sustainability and growth by adopting a framework-based approach like Val IT. Val IT assists organizations in directing every IT investment towards strategic goals, thereby enabling more efficient and targeted resource allocation. Implementing the Val IT Framework is not only a strategic step in managing IT investments, but also an investment in risk management and better performance. With a structured framework, Val IT allows organizations to identify, evaluate, and manage emerging risks, as well as monitor the performance of each investment more effectively. This helps organizations reduce the possibility of IT project failure and ensure that the results obtained are commensurate with the costs incurred [11]. Amidst various challenges in the digital era, such as rapid technological changes and the complexity of IT projects, the use of a structured framework such as Val IT is increasingly relevant and necessary. Val IT helps organizations achieve success in digital transformation, providing clear guidance to maximize the value of each investment and ensuring that IT remains a key driver of innovation and competitive advantage for organizations.

IT investment is defined as expenditures made by organizations to purchase, develop, or maintain IT systems and infrastructure. These investments can contribute to increased operational efficiency, product development, and improved customer relationships. By implementing the right technology, organizations can improve business processes, speed up response times, and provide added value to customers. However, making the right investment decisions requires a deep understanding of the benefits and risks involved. Understanding the benefits of each IT investment can help organizations plan and allocate resources more efficiently. However, we must carefully evaluate the risks associated with these investments, including technological uncertainty, market changes, and potential implementation failures [15]. Stakeholder involvement in the decision-making process is also very important. Stakeholders, from top management to technical staff, must understand how IT investments align with the organization's strategic objectives. They also need to

know how to mitigate risks and negative effects of these investments. Therefore, we highly recommend a systematic approach to IT investment assessment. This includes using frameworks like Val IT to evaluate and prioritize investments based on the value they generate. In this way, organizations can make more informed and strategic investment decisions, optimizing IT spending to achieve higher efficiency, product innovation, and better customer relationships. Overall, effective IT investment management is key to organizational success in today's digital age. Understanding and managing the benefits and risks of IT investments allows organizations to adapt quickly to change and remain competitive in the marketplace [16].

A systematic IT investment assessment is necessary to ensure that every expenditure adds value to the organization. Many organizations fail to measure the impact of IT investments appropriately, which can result in wasted resources. Failure to evaluate properly can lead organizations to make unprofitable decisions, where inappropriate investments can hinder growth and innovation. A favorable assessment includes more than just a cost-benefit analysis; it also considers factors such as risk, timing, and long-term impact on business strategy. For example, a risk analysis should include identification of potential failures, technological changes, and unexpected market impacts [8]. Additionally, it is crucial to carefully assess the timing and long-term impact of IT investments to guarantee their contribution to the organization's strategic objectives. These long-term factors are critical because IT investments often take time to produce the desired results. Therefore, a comprehensive approach to IT investment assessment will help organizations identify opportunities that may not have been apparent in the initial analysis. By considering all these aspects, organizations can better formulate strategies that support long-term sustainability and growth. On the other hand, an approach that focuses too much on cost analysis can overlook the potential strategic benefits of IT investments. Therefore, it is important to develop metrics and assessment tools that include not only financial figures but also qualitative factors that can affect the overall success of the organization. As a result, a comprehensive and systematic assessment of IT investments not only provides a more accurate picture of the investment's value but also helps organizations avoid common pitfalls in decision-making. Through a careful evaluation process, organizations can allocate resources more effectively, improve efficiency, and achieve better results from each investment made [10].

The IT Governance Institute developed the Val IT Framework as a tool to assist organizations in managing and evaluating their IT investments. This framework aims to link IT investments to business objectives and ensure that each investment provides optimal value. According to ITGI, Val IT consists of three main domains. First, Value emphasizes the importance of identifying and measuring the benefits of IT investments. This includes analyzing how investments can improve efficiency, productivity, and customer satisfaction. Organizations need to establish clear metrics to evaluate the value generated from IT investments so that they can make better decisions about resource allocation [4]. Second, the risk domain focuses on identifying and managing IT investment risks. This framework helps organizations understand the risks that may arise, such as security threats, system failures, and negative impacts on reputation. With a systematic approach to risk management, organizations can reduce potential losses and minimize the negative impacts of unsuccessful investments. Third, the performance domain uses metrics to evaluate IT investments' performance. This domain helps organizations measure the extent to which IT investments are achieving their stated goals. With proper performance assessment, organizations can identify areas for improvement and optimize IT investment management to achieve better results. Overall, the Val IT Framework provides an integrated approach to managing IT investments by considering value, risk, and performance, ensuring that each investment not only meets current needs but also supports long-term goals and offers sustainable benefits [7].

Many studies have shown the benefits of implementing the Val IT Framework for managing IT investments. Implementing Val IT can improve accountability and transparency in investment decision-making. This means that decisions made regarding IT investments become clearer and more accountable, thereby increasing stakeholder trust in the investment management process. Organizations that use Val IT tend to have better risk management and more positive investment outcomes. With a systematic approach to risk identification and management, organizations can minimize potential losses and maximize the benefits of their IT investments. These findings indicate that implementing Val IT not only provides a framework for decision-making but also contributes to achieving better results in managing IT investments [14].

Although Val IT offers many benefits, there are several challenges that organizations face in implementing it. Several studies have shown that a lack of understanding of the framework is often a barrier to effective implementation [6]. Ambiguity about how Val IT works and its benefits can lead to doubts among stakeholders, which in turn hinders an organization's efforts to implement the framework comprehensively. Furthermore, resource constraints are often a limiting factor. Organizations may not have enough budget, time, or manpower to implement Val IT optimally. This could result in haphazard implementation, thereby diminishing the potential benefits. Furthermore, employee resistance to change can impede the implementation of this framework [12]. When employees feel uncomfortable or unsure about the changes brought about by implementing Val IT, they may refuse to actively engage, thereby reducing the effectiveness of the framework.

2. Research Method

This study aims to explore studies and research related to the concepts of value, investment, investment planning, information technology (IT) investment, and IT governance through COBIT and Val IT Framework 2.0. This study employs a qualitative approach, supplemented by a literature study method. We chose this approach to gain a deep understanding of the relevant concepts and to identify the relationship between various elements related to IT investment and the IT governance framework. This study's data collection process involved several key steps. First, we conducted a literature review, collecting and analyzing various relevant literature sources such as books, journal articles, research reports, and official documents that discuss related topics. The main focus of the reviewed literature is on the concept of value in investment, investment planning theory and practice, investment in IT and its impact on organizations, and IT governance frameworks, especially COBIT and Val IT Framework 2.0. Furthermore, we sourced data from academic databases like Google Scholar, IEEE Xplore, ScienceDirect, and JSTOR, employing keywords like investment value, IT investment planning, COBIT, Val IT Framework, and IT governance to verify the accuracy and breadth of the collected data.

We conducted the analysis using a thematic analysis approach, organizing information from the literature into relevant key themes. This analysis began with Key Theme Identification, identifying and grouping themes such as the definition and concept of value in investment, components and processes of investment planning, IT investment principles and performance, and the application of COBIT and Val IT Framework in IT Governance. Subsequently, we conducted a framework comparison, concentrating on contrasting COBIT and the Val IT Framework within the framework of IT investment management. This comparison included identifying the strengths and weaknesses of each framework, as well as how the two frameworks can complement each other to support more effective IT investment

management in organizations. After the analysis, the next step was to evaluate the findings obtained and synthesize the information to draw conclusions. The process begins with developing thematic narratives, which is the process of synthesizing the results of the analysis into a narrative that connects key themes such as value, IT investment, and IT governance. This narrative offers a thorough understanding of the interrelationships among these themes and their impact on the overall management of IT investment. We then follow the evaluation process with recommendations for further research, utilizing the findings to pinpoint areas that necessitate further investigation. These recommendations aim to deepen our understanding of the application of the Val IT Framework and COBIT in the context of IT investment, as well as propose opportunities for future practice improvement.

3. Result And Discussions

3.1. The Val IT Framework's relevance to IT Investment Assessment

The Val IT framework's application demonstrates its relevance in IT investment assessment. Amidst the complexity of today's digital world, organizations need to have a clear and structured approach to managing their IT investments. Val IT Framework provides a framework that helps organizations assess and evaluate IT investments from the perspective of value, risk, and performance, thus ensuring that every expenditure provides maximum benefits. Through a structured approach that focuses on value, organizations can identify and exploit opportunities in IT investments. This allows them to not only evaluate short-term benefits but also consider the long-term impact of each investment decision. Thus, organizations can direct their IT resources to the most promising areas, increasing the likelihood of investment success. Van Grembergen and De Haes (2009) expressed this view, emphasizing the importance of a value-based approach in IT investment to achieve desired results. They emphasized that organizations that adopt this approach can be more effective in evaluating the performance of their investments and optimizing resource allocation. Thus, the Val IT framework acts as a guide that helps organizations make better decisions regarding IT investments. In addition, the Val IT framework also helps organizations manage risks associated with IT investments. In this context, risks encompass not only potential financial losses but also reputational and operational risks. By proactively identifying and managing these risks, organizations can increase their resilience and minimize the negative impact of investment failure. Overall, implementing the Val IT framework provides significant benefits to organizations in managing IT investments. With a holistic and value-focused approach, organizations can not only achieve desired results but also build a strong foundation for long-term growth. By integrating Val IT principles into their IT management strategy, organizations can be better prepared to face challenges and take advantage of opportunities in the ever-evolving digital era.

3.2. The Relationship between COBIT and Val IT

In IT governance, COBIT and Val IT have a close relationship. Both serve as complementary frameworks for managing information technology in organizations. While COBIT focuses more on managing and controlling IT processes, by providing guidance to ensure that IT processes run efficiently and effectively, Val IT emphasizes the importance of the value generated from IT investments. In other words, COBIT acts as a strong operational foundation, while Val IT provides a strategic perspective on value. Both works together to help organizations ensure that IT makes an optimal contribution to business objectives. In practice, the implementation of both frameworks can support each other in creating beneficial synergies. For example, by implementing COBIT, organizations can manage the risks and compliance associated with IT processes, which in turn helps create a safer and more controlled environment for IT investments. On the other hand, Val IT provides tools and metrics to assess and maximize the value of IT investments. Val IT encourages organizations to consider not only the costs and risks associated with each investment, but also the potential benefits. Ensuring that IT spending aligns with strategic objectives and adds value to the organization is crucial. The simultaneous implementation of COBIT and Val IT allows organizations to develop a comprehensive approach to IT governance. By integrating IT process management (through COBIT) with IT investment value assessment (through Val IT), organizations can achieve better IT performance and support the achievement of their business objectives more effectively. Together, the two form a solid framework for results-oriented IT management. Thus, the combination of COBIT and Val IT not only strengthens IT governance in the organization but also creates significant strategic value. In this increasingly complex digital era, adopting both frameworks are becoming more important for organizations looking to adapt and thrive. Doing so helps organizations manage their IT well and maximize outcomes from every investment.

3.3. Strategies for Overcoming Challenges in Val IT Implementation

Here is a further explanation of the strategic steps that organizations can take to overcome challenges in implementing Val IT, organizations must take an important step by increasing understanding of Val IT through a systematic training program. We must design this program to engage stakeholders at all levels, from top management to operational staff, ensuring they have a solid understanding of Val IT principles and can effectively contribute to IT investment decision-making. Training materials should include an introduction to Val IT, its objectives and benefits, and its application in the specific context of the organization, accompanied by case studies and real examples to illustrate successful implementation in other organizations. To ensure the effectiveness of training, organizations need to consider a variety of teaching methods, such as workshops, seminars, and e-learning. These methods can help reach various learning styles and increase participant engagement. In addition, providing certification to participants who have completed the training can be an additional incentive to increase participation. Following the training, assess the participants' comprehension through tests or feedback to gauge their understanding of the training material. This feedback will help the organization identify areas for improvement and ensure that the training continues to evolve according to stakeholder needs. With a comprehensive and ongoing training approach, organizations can minimize the knowledge gaps that often-become barriers to implementing Val IT. Better preparedness and understanding of the framework will increase the chances of success in managing future IT investments. Thus, effective training not only supports the implementation of Val IT but also contributes to the development of overall competency within the organization.

Implementing Val IT in a phased manner is a strategic move that can help organizations adapt to change and reduce resistance to implementing a new framework. Starting with small, focused projects allows organizations to test Val IT principles in a real-world context without incurring major risks. These early successes offer concrete proof of the framework's value generation, demonstrating the effective implementation of a value-based approach. Small projects serve as pilot projects, allowing organizations to identify challenges and opportunities that may arise during the implementation of Val IT. This experience allows organizations to make adjustments and improvements before moving on to larger projects. This approach also gives teams time to learn and adapt to the new approach, reducing

the chances of failure when implementing on a larger scale. Small projects' success can also increase support within the organization. When stakeholders see positive results from implementing Val IT, they are more likely to support broader initiatives, reducing the skepticism and resistance that often arise when major changes are made all at once. By validating this approach at a small level, organizations can create momentum to support larger, more complex changes. Organizations can start scaling up Val IT implementation to larger, more complex areas once they achieve positive results from small projects. At this stage, the strategy and approach for broader implementation can incorporate the lessons learned from the initial projects. In this way, organizations not only reduce risk but also increase the likelihood of long-term success in managing IT investments. By adopting a phased approach, organizations can build a strong foundation for implementing Val IT while building trust and support from all stakeholders. This guarantees the acceptance and value of Val IT as a crucial tool for managing IT investments, thereby enhancing overall performance and investment outcomes.

Adequate resource allocation is one of the key factors in an organization's successful implementation of Val IT. This encompasses not only a suitable budget, but also ample time and manpower to guarantee the effective implementation of all framework components. Organizations must recognize that investing in these resources is a critical step in achieving the desired outcomes of the Val IT implementation. To begin, organizations need to conduct a needs analysis to determine the resources required in each phase of the Val IT implementation. This includes identifying the software requirements, analysis tools, and infrastructure needed to support data collection and evaluation. By understanding these requirements, organizations can plan their budget and resources more effectively, increasing the likelihood of a successful implementation. In addition, involving a competent team in the implementation process is essential. Team members with training and experience in Val IT are better equipped to tackle potential implementation challenges. Organizations must ensure that they have individuals with the appropriate skills to run the project, both technically and managerially. A strong team will be the key driver in the implementation and refinement of the framework. Equally important, organizations must also provide sufficient time for the team to carry out the Val IT implementation. This includes time for training, planning, and implementation. By allowing sufficient time, organizations can avoid stress that can compromise the quality of implementation and the final outcome. Sufficient time also allows the team to adapt to changes and refine their approach to implementing the framework. With sufficient and appropriate resource allocation, organizations can ensure that the implementation of Val IT runs smoothly. This success will not only improve the organization's ability to maximize the value of IT investments but also support their strategic objectives more effectively. Furthermore, the successful implementation of Val IT can serve as a positive example, motivating the team to continue to innovate and find new ways to improve IT investment management in the future.

4. Conclusion

The described research results conclude that the Val IT Framework significantly enhances IT investment assessment by promoting transparency, accountability, and risk management. This framework helps organizations better understand and evaluate the value of their technology investments. However, proactively addressing challenges like resource constraints and resistance to change is necessary to maximize this value. The success of Val IT implementation depends heavily on the organization's ability to integrate it with other best practices, such as those contained in COBIT. This combination allows organizations to make better investment decisions that are more aligned with their strategic objectives. However, the challenges, including resource constraints, a lack of understanding of the framework, and resistance to change, remain significant barriers to its implementation. Therefore, it is important for organizations to develop a comprehensive strategy. This strategy should include adequate training for all stakeholders to improve their understanding of Val IT, gradual implementation to adapt to change, and sufficient resource allocation to support implementation. By taking these steps, organizations can be more effective in overcoming existing challenges. With the right approach, organizations can not only maximize the benefits of their IT investments but also ensure that every expenditure contributes significantly to the achievement of strategic goals. The Val IT Framework, when implemented well, serves not only as an evaluation tool but also as a guide to achieving better and more sustainable results in IT management. This shows that investing in implementing this framework is very valuable for the organization's long-term sustainability and success.

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