FACTORS INFLUENCING THE SUCCESSFUL ADOPTION OF INFORMATION TECHNOLOGY IN HIGH SCHOOL INSTITUTIONS IN INDONESIA

RESAD SETYADI

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RESAD SETYADI

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ABSTRACT

The COVID-19 pandemic has profoundly impacted the global community, compelling businesses across all sectors to adapt to advancements and trends in Information Technology (IT). The education sector, mainly High School Institutions (HSI), has experienced significant adaptation due to the pandemic. Stakeholders play a vital role in HSIs as they oversee and control IT decisions that can positively or negatively influence business outcomes. Therefore, HSI must establish an effective IT success implementation that guides decision-making and ensures IT initiatives align with business value. This research aims to identify factors influencing IT Success () Adoption for HSI. The success of factors influencing IT Adoption are specifically tailored for HSIs in Indonesia. The HOP, BTH, DSC, and INS influence the QOI, QSY, and QSV. They all also affect the system trust variable. This study focuses on quantitative methods by sharing the questionnaire and interview. In this research, 400 respondents from 20 High School Institutions (HSIs) were selected as the sample for the study. SMART PLS analyzes the data starting from the validity of the questionnaire was assessed, and the results indicated that it is valid, as the Average Variance Extracted (AVE) test score was 0.756, which is higher than the recommended threshold of 0.5. The reliability of the questionnaire was also assessed. It was reliable, as the average Cronbach's alpha test score exceeded the threshold of 0.7. The analysis of the Bootstrapping technique revealed that all exogenous constructs collectively accounted for 81.4% of the impact. This indicates that the selected constructs have a significant influence. Further analysis of the Bootstrapping results revealed that seventeen direct effects significantly influenced, as their p-values were lower than 0.05. On the other hand, six direct effects were found to be not significant, as their p-values were higher than 0.05. These findings suggest that the selected constructs and their corresponding direct effects substantially influence HSIs. The research provides empirical evidence supporting the importance of these factors in shaping effective IT adoption in Successful practices. there were three research findings. Firstly, this research succeeded in knowing problems in the HSI sector in Indonesia. Secondly, the framework has been developed for HSI in Indonesia. Third, this framework can help to solve the IT Adoption problem at HSI in Indonesia. The recommendation of This Thesis research is this study can influence the mindset of HSI stakeholders to consider IT Adoption implementation for the HSI Business value. The benefit after this research finishes is the stakeholders who are interested and consider to use this framework can implement this framework.

Keywords: High school, teacher, IT adoption, framework, smart PLS.

APPROVAL

This is to certify that this thesis conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, for the fulfilment of the requirements for the degree of Doctor of Philosophy.

The student has been supervised by: **Prof Ts Dr Aedah binti Abd Rahman, Professor, SST & Head, Agile Digital Technologies (ADT) Sdn Bhd, ICTS & Asian Centre of e-Learning (ACE) and Assoc Prof Dr A'ang Subiyakto, Adjunct Senior Lecturer, SST, AeU**

The thesis has been examined and endorsed by:

Dr Nasiroh Omar,
Universiti Teknologi Mara (UiTM)
Examiner 1

Prof Madya Ts Dr Zulkefli bin Mansor,
Universiti Kebangsaan Malaysia (UKM)
Examiner 2

This thesis was submitted to Asia e University and is accepted as fulfilment of the requirements for the degree of Doctor of Philosophy.

Professor Dr. Siow Heng Loke
Asia e University
Chairman, Examination Committee
(6 February 2024)

DECLARATION

I hereby declare that the thesis submitted in fulfilment of the PhD degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the program and/or exclusion from the award of the degree.

Name: Resad Setyadi

Signature of Candidate: **Date:** 6 February 2024

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LIST OF ABBREVIATION

AVE	Average Variance Extracted
BTH	Breakthrough
DSC	Discomfort
EFF	Efficiency
HOP	Hopefulness
HSI	High School Institution
INS	Insecurity
IS	Information System
IT	Information Technology
ITS	Information Technology Success
ITIL	Information Technology Infrastructure Library
PhD	Doctor of Philosophy
PLS	Partial Least Square
QOI	Quality of Information
QSV	Quality of Service
QSY	Quality of System
SEM	Structural Equation Model
SYT	System Trust

CHAPTER 1

INTRODUCTION

Information Technology (IT) was initially used to automate manual processes that occur in an organization and contribute to extensive industry digitalization (Mehmood, 2021). IT is crucial in facilitating the accounting process within companies and organizations. This, in turn, notably impacts the firm's overall performance(Dong et al., 2021). In this context, the primary motivations for utilizing IT are to enhance efficiency, increase corporate prof, and effectively manage costs (X.-Z. Chen & Liu, 2018). However, IT problems arose when a study found problems from two organizational financial report manipulation financial scandals that rocked the United States of America at the end of 2001. The scandal's name is Enron and WorldCom. Enron and WorldCom became the public spotlight. At that time, business scandals arose from corporate executives' deliberate manipulation of financial statements (Manita et al., 2020). Enron's accounting scandal caused Shareholders to lose US$ 74 billion, thousands of employees and investors lost their pension funds, and many employees lost their jobs (Rashid et al., 2019).

Due to the scandal, the new SOX Law required public companies to increase information transparency, improve the quality of information, publish information, strengthen information disclosure, enhance corporate Success, and protect investors' interests (Giannarakis et al., 2020). IT perspective and application become more valuable because of IT year-by-year support to organizational agility(Tallon et al., 2019). IT helps an organization respond and play an essential role in complex processes in decision support and risk management (He et al., 2021).

It is essential for business success that the IT function transforms, with a key focus on aligning corporate strategies with IT strategies (Alryalat et al., 2017). Leaders

who adopt a decision-making strategy can enhance the performance of their organizations and generate value for their businesses (Turel et al., 2017). IT business capability encompasses the capacity of a company to effectively coordinate the acquisition and implementation of IT resources in alignment with specific business needs (Mauerhoefer et al., 2017). Providing a good service like social media helps companies increase business exposure to the community because organizations use IT utilization (Dwivedi et al., 2021). Another study conducted on financial company performance demonstrated that the impact of IT investment on a company's financial performance is evident, provided that the investment in IT is utilized effectively and efficiently to increase the business (Gunawan, 2018).

There are several reasons why organizations/companies need to invest in IT. Firstly, Sense of Security: Investing in IT security (e.g., cyber security) ensures all critical and confidential company information is kept safe and prevents illegal access (Srinivas et al., 2019). Secondly, The Need for Speed. Investing in IT can help people spend time doing manual tasks, help them use data better and safer, and communicate effectively and efficiently with all parties involved (Y. Chen et al., 2021). The more innovative the use of existing technology, the more visible the company's added value in the business world and allows them to provide the best service to customers and become a company that can advance to compete and still survive. Thirdly, time is a resource; Investing in IT means saving time, for example, using mobile internet-based technology (Mivehchi, 2019). Fourthly, Investing in IT can lead to several benefits, such as enhanced customer satisfaction and loyalty and the development of employee skills and competence (Ako-Nai & Singh, 2019).

Educational institutions also need IT implementation as a means of teaching and learning processes to create more accessibility (Kibor & Tumuti, 2020). IT use in

education is the right strategy today (Hermawan et al., 2018). The COVID-19 pandemic has compelled secondary schools in Indonesia to optimize the utilization of IT for educational activities (Lie et al., 2020b). The conditions for determining IT strategies in high schools are essential for students and teachers (Hanımoğlu, 2018). From the student side, there is great hope for fast internet access to access quality education to increase efficiency and save time (Szymkowiak et al., 2021a). Teachers utilize IT through how teachers optimize information through technology for teaching administration, delivering knowledge to students, and teaching presentations(T. Liu et al., 2021). The School Foundation as a school manager also needs IT to cover running the education business quickly, efficiently, and effectively (Szymkowiak et al., 2021a).

In the realm of Information Systems (IS), there has been significant research focused on the adoption of technology (Oyetade et al., 2020). Research in this area seeks to comprehend, forecast, and elucidate the factors that influence adoption behavior, both at the individual and organizational levels, in embracing and utilizing technological advancements (Gangwar et al., 2014). Implementing IT adoption aligns high schools' business and IT strategies by leveraging technology to enhance education delivery, streamline operations, facilitate data-driven decision-making, promote communication and collaboration, prepare students for the future, and gain a competitive advantage in the educational landscape (Oyetade et al., 2020). Comprehending the factors influencing an individual's decision to adopt technology is crucial for both stakeholders of these technologies and the developers and manufacturers behind them.

1.0 Background of the Study

Since the start of 2020, the COVID-19 pandemic has transformed teaching and learning methods in schools and universities worldwide (Pokhrel & Chhetri, 2021). As

a result of the COVID-19 pandemic, schools in Indonesia have been forced to shut down, prompting the government to introduce distance education measures, such as online learning, to mitigate the impact of school closures (Yarrow et al., 2020). Amidst the COVID-19 pandemic, private and public schools have adapted their teaching and learning processes, relying on proficient IT support to facilitate the necessary changes (Mirahmadizadeh et al., 2020). In every school, essential requirements include hardware, software, and human resources, directly contributing to the teaching and learning process involving students, teachers, and management staff. Consequently, schools must make substantial adjustments to prepare themselves for the uncertain duration of the COVID-19 pandemic.

Higher Education Institutions (HEIs) and other educational institutions have had to swiftly adjust to the challenges posed by the COVID-19 situation by implementing online learning methods (Teräs et al., 2020). For this reason, HEI supports learning, administration, and business activities. Implementing IT Adoption is also crucial for Higher Education Institutions (HEIs) as it plays a vital role in their teaching, research, and administrative functions. Recognizing the significance of IT Adoption implementation, HEIs prioritize technology to enhance their academic and administrative operations. IT facilitates education and creates global awareness. Students need to access IT because it helps the education system be more student-oriented. Hence, careful planning of IT implementation is essential to ensure various benefits, such as facilitating streamlined business process modifications, supporting new activities, and enabling seamless collaboration across departments and institutions.

The institution must conduct an IT implementation by adopting how to use maximum, efficiency and effectiveness in IT. By assessing the efficiency and

effectiveness of the current utilization of IT then stakeholders know how far they already use IT for maximum purposes(Garven & Scarlata, 2020). The field of science in charge of IT is effective in IT Adoption (Veerankutty et al., 2018). Researchers have conducted numerous studies on IT Adoption in Higher Education Institutions (HEIs), employing the Technology Acceptance Model (TAM) as their chosen methodology to analyze the success of IT adoption in Technology Acceptance (Al-Maatouk et al., 2020). Currently, in educational institutions, Higher Education Institutions (HEI) see that using technology for competitive advantage has become a significant need and not only belongs to corporate organizations(Gryshchenko et al., 2021).

Educational institutions, including High Schools, handle sensitive student and staff information. Ensuring the security and privacy of this data is a significant challenge. Scientific problems revolve around the process of developing an IT Adoption Framework to analyze the effectiveness and efficiency of implementing IT in HSI. To develop and build the Framework the data of the problem statement that happened in High School first, then the next stage is to check to connect the Literature review related to developing the IT Success Framework. Adoption and adaption are the next stages based on previous research as reference primary research to develop the Framework. IT Success Framework helps institutions know how far the effective and efficient IT implementation that they did to support Business goal HSI.

High schools often have limited budgets and resources to provide their IT resource. Optimizing the allocation of IT resources to meet educational goals, enhance efficiency, and ensure sustainability poses a scientific problem in IT Adoption. The Other response said that building awareness and educating students and staff about cybersecurity is crucial. From the institution stakeholder sight, policy development and Compliance is also influenced by IT Success implementation. Creating and

enforcing IT policies that comply with legal and regulatory requirements while meeting the specific needs of the high school environment can be challenging. Scientific problems may focus on developing adaptive IT Adoption structures that balance compliance and flexibility.

Integration of Emerging Technologies is the next background that Success mechanism is needed in school. The school stakeholders were not keeping up with the latest technological advancements and did not integrate them into the educational environment they had have the new technology. It is crucial to establish effective monitoring and evaluation mechanisms to assess the impact of IT initiatives on teaching and learning outcomes. Scientific problems relate to how stakeholders use IT Adoption strategies align to with business strategy and make data-driven improvements reach IT Success.

IT Adoption is provided to help Organizations analyze IT strategy and align it to business strategy. It serves as a tool to measure performance and identify areas for improvement in IT operations. IT adoption is crucial in high schools to ensure that IT strategy aligns with the overall business strategy of the institution (Ammenwerth et al., 2006). Several reasons why IT Adoption ensures that IT strategy aligns with the overall business strategy are; firstly, Implementing IT adoption in high schools can significantly enhance the educational experience for both students and teachers. It can facilitate interactive learning, provide access to a wealth of educational resources online, and enable personalized learning experiences tailored to individual student needs.

Secondly, IT adoption can streamline administrative processes such as student enrollment, grading, scheduling, and communication between teachers, students, and parents. This efficiency allows administrators to focus more on strategic initiatives to

improve academic outcomes. It emphasizes the role of technology in bridging the divide between theoretical knowledge and practical implementation, thereby offering students a more interactive and immersive learning encounter (Oluwabosoye Abitoye et al., 2023). Modernization presents a chance to improve the utilization of resources by minimizing dependence on paper-based materials and manual administrative procedures. This enhances the overall efficiency and effectiveness of educational institutions.

In today's digital era, skill in using technology is essential for students to thrive in college and their future careers (Harefa & Sihombing, 2021). Harefa said The integration of technology in educational settings has created fresh opportunities for educators, transitioning traditional face-to-face instruction into e-learning or online learning formats. IT adoption enables high schools to collect, analyze, and utilize data more effectively (Anne Yates2020). Yates informed this data can be used to identify trends, assess student performance, and make informed decisions to improve teaching methods and educational outcomes. By adopting IT in high schools, students can develop important digital literacy skills that are increasingly in demand in the workforce. IT Adoption helps stakeholder know what IT peripherals that implemented in their school. IT Adoption more on checking the IT preparation and response by users (stakeholders) in every school, so they will be know how to align the IT strategy to the business strategy.

On the Firm’s side, in the United States, they use COBIT as a tool to analyze and check for achieving compliance with the Sarbanes-Oxley Act (SOX) (Haouam, 2020). SOX elf is a turning point for the company to comply with laws relating to corporate finance because SOX is a law that applies in the United States which requires every public company to make very detailed financial reports, including providing an

analysis of the shortcomings and risks faced by the company. COBIT helps implement effective control mechanisms to produce quality financial reports (Haouam, 2020; Widharto et al., 2022). Two primary objectives that drive the implementation of IT are establishing a committee structure to oversee IT assets and facilitating effective communication channels between IT, the business, and stakeholders (Harguem, 2021).

The priority of top firm management is to achieve the firm's performance goals. The goal target of the firm's performance goes beyond describing how to use and implement a diagnosis and design IT architecture. Implementing IT Adoption will enable the firm to achieve several benefits, including improved accuracy in information quality, increased operational cost efficiency, precise estimation of IT project costs with correct specifications and budgets, enhanced competitiveness, and efficient performance of IT divisions and the entire organization. IT strategy in companies or educational institutions is also one of the main goals for future performance improvement and sustainable business growth (Fattah et al., 2021).

Developing educational institutions estimate if IT has a function to enhance the learning process that can guide students to learn/study (Shatri, 2020). A pedagogical assumption underlies IT design for educational purposes technology's role as a tool of analysis, a research approach, and integrated use in education (Tuma, 2021). The first time IT implementation is used to support IT-related decisions is mainly related to the relationship between organizational strategic goals, business objectives, and IT management (Wiedenhöft et al., 2020). The importance of value creation and accountability for using information and related technology and assigning responsibilities to regulatory bodies rather than chief information officers or business management (Sofyani et al., 2020).

IT Adoption helps stakeholders to assure organizations or institutions and to align with the institutional business strategy of budgeted IT strategy (Wiedenhöft et al., 2020). Efficient and effective utilization of IT creates business value by facilitating seamless information exchange between corporate decision-makers and business un, ultimately promoting organizational agility(Tallon et al., 2019).

Now, educational institutions, to be competitive, must provide services and describe IT strategies in alignment with business strategies to maintain high profitability, efficiency, and effectiveness to cope with changing times (Ngqondi & Mauwa, 2020; Sengik et al., 2022a). There are two kinds of High School Institutions in Indonesia: the private of High School and the public of High School (Stern & Smith, 2016). Stern highlights a noticeable distinction in Indonesia between the financial support for IT strategy in public schools and private schools. The Indonesian government managed and fully supported public schools by IT investment funds. The private school sector does not fully get support from the government. The reason why the private school use their funds is because they must be self-financed from educational institutional foundations.

The other information that describes Indonesian school conditions is supported by data from the results of overseas studies that conclude that Indonesian primary, secondary, and high school educations are still far behind developed countries (Sulisworo, 2016). The poor quality of Indonesia's education system has been attributed by prominent organizations such as the Organization for Economic Co-operation and Development (OECD) and the Asian Development Bank (ADB) to factors such as insufficient funding, deficit in human resources, and inadequate management. According to the Central Bureau of Statistics (CBS), the assessment of IT development in Indonesia in 2020 reveals that access to the Internet, based on the