Journal of Information Systems and Informatics
Vol. 5, No. 2, June 2023 e-ISSN: 2656-4882 p-ISSN: 2656-5935
DOI: 10.51519/journalisi.v5i2.486 Published By DRPM-UBD

Strategic Planning for Student Guidance Information System Design in Tourism Department using Ward and Peppard Framework

Yerik Afrianto Singgalen[1]

[1]Tourism Department, Faculty of Business Administration and Communication, Atma Jaya Catholic University of Indonesia, Jakarta, Indonesia.
Email: [1*]yerik.afrianto@atmajaya.ac.id

Abstract

This study examines the challenges faced by students during the thesis completion process, including miscommunication, document loss, and difficulty scheduling guidance sessions. To address these issues, Ward and Peppard's method was utilized to design a strategic plan for the Tourism Department at Atma Jaya Catholic University of Indonesia. The research findings reveal that the implementation of the student guidance information system, "SIBIMA," results in an efficient and effective process for student registration, supervisor verification, document upload/download, manuscript correction, and monitoring of student progress. Furthermore, the SWOT analysis, Value Chain, Critical Success Factor (CSF), Porter Five Forces model, and McFarlan Grid Portfolio demonstrate that SIBIMA effectively utilizes strengths to overcome weaknesses and minimize threats.

Keywords: Strategic Planning; Student Guidance; Information System; Ward and Peppard; Tourism Department

1. INTRODUCTION

The important role that student guidance information systems (SIBIMA) play in higher education institutions has recently become more widely acknowledged. SIBIMA has the potential to improve academic achievement, student services, and student-faculty contact. However, designing and implementing SIBIMA requires careful strategic planning to ensure that they meet the unique demands of the institution and its stakeholders. The Ward and Peppard Framework is a helpful tool for institutions to develop an IT strategy that supports their goals. This study explores the potential application of the Ward and Peppard Framework to the strategic planning of SIBIMA in higher education institutions, using a case study

of the Tourism Department at the Faculty of Business Administration and Communication at Atma Jaya Catholic University of Indonesia.

The evolution of strategic planning using the Ward and Peppard method has been influenced by advancements in information technology and growing complexity in business demands [1], [2]. This method has been proven to assist organizations in identifying business needs, developing information system strategies, and implementing practical and efficient solutions [3]. In addition, it helps organizations improve business efficiency and effectiveness, as well as ensure information security within their systems [4]. This suggests the need for a broader analysis of business innovation, organizational leadership, and technology development using the Ward and Peppard framework or other strategic planning methodologies. As such, the Ward and Peppard framework is helpful for identifying user needs, organizational characteristics, and information technology support for strategic planning.

The Ward and Peppard framework has advantages that help organizations develop information systems that integrate with business strategy and improve efficiency. This framework provides explicit and systematic guidance for identifying business needs, developing strategies, and implementing practical and efficient information systems [5]. The framework also emphasizes the importance of top management involvement in developing information systems. However, a drawback of the Ward and Peppard Framework is too much emphasis on information technology. So the business side may need more attention. This framework requires a lot of time and resources to gather information and perform business analysis, so it may only be suitable for organizations with limited resources [6]. Only occasionally can this framework keep up with quick and dynamic business changes. Organizations must frequently update and modify their information systems strategy to stay current with business and information technology changes.

The importance of creating a student guidance information system using the Ward and Peppard framework cannot be overstated. Organizations can use the framework to assess their technological readiness, pinpoint their business requirements, select the best information system strategy, plan and design the system architecture, implement the system, and evaluate its performance [7]. The organization can use the framework to ensure that the information system supports its constituents and aligns with its corporate objectives. The Ward and Peppard framework also emphasize the importance of top management participation in developing the information system. This can increase their commitment to the project and ensure that the design aligns with the company Field's strategic direction[8]. The framework can also help organizations improve their business processes and boost efficiency by automating repetitive tasks and streamlining workflows [9]. This demonstrates that Ward and Peppard is one of the suitable methods for creating strategic planning for the creation of educational

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

application development. As a result, the framework provided by Ward and Peppard is used in the strategic planning of the Student Guidance Information System in the Tourism Department, Faculty of Business Administration and Communication at the Atma Jaya Catholic University of Indonesia.

Furthermore, a well-designed Student Guidance Information System built on the Ward and Peppard framework can improve the quality of student services by providing students and counselors with timely and accurate information, facilitating communication and collaboration between students and lecturers or supervisors, and supporting data-driven decision-making. The system can also increase data accessibility and accuracy, improving performance monitoring, resource allocation, and planning. Therefore, using the Ward and Peppard framework can assist organizations in aligning their information system with their business objectives, improving business processes, raising the caliber of student services, and supporting data-driven decision-making.

Previous studies have demonstrated that educational institutions use the Ward and Peppard framework to design their information systems [10]. As a result, using the Ward and Peppard framework in the context of this study becomes appropriate. Several analytical approaches that can be used in the Ward and Peppard framework are SWOT, Value Chain, Critical Success Factor (CSF), Porter Five Forces model, and Portfolio McFarlan Grid. These approaches provide several advantages to organizations in the design of their information systems [11].

To begin, organizations can use the SWOT analysis to determine their strengths, weaknesses, opportunities, and threats and understand their internal and external environments [12]. Using this data, a strategic plan for the information system can be created that aligns with the organization's goals, makes the most of its strengths, and minimizes its weaknesses and risks. Furthermore, the value chain analysis can assist organizations in identifying their core and auxiliary functions that can be optimized to add value for both the organization and its clients [13]. This can help organizations improve the quality of their goods and services while streamlining their operations and cutting costs.

Organizations can identify the crucial elements necessary for the information system's success using the Critical Success Factor (CSF) analysis [14]. The organization can focus on the most critical areas to accomplish its goals by using this information to prioritize resources and activities. The Porter Five Forces model can also assist organizations in evaluating the competitiveness of their industry and spotting potential threats and opportunities [15]. Using the results of this analysis, a strategy can be created that takes full advantage of the organization's opportunities and strengths while minimizing the risks posed by those same factors.

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

Additionally, organizations can assess the strategic importance of their information systems and how best to allocate resources using the Portfolio McFarlan Grid [16]. Based on their strategic value and potential return on investment, this analysis can assist organizations in prioritizing their investments in information systems. In conclusion, the Ward and Peppard Framework's use of SWOT, Value Chain, Critical Success Factor (CSF), Porter Five Forces model, and Portfolio McFarlan Grid can give organizations a thorough and organized method for designing their information systems that are in line with their business goals and maximize their chances of success [17]–[19]. It is clear from the preceding that SWOT analysis, Value Chain, Critical Success Factor (CSF), Porter Five Forces model, and McFarlan Grid Portfolio are crucial to strategic planning.

2. METHODS

The stages in the framework of Ward and Peppard to establish the strategic planning of the Student Guidance Information System in the Tourism Department, Faculty of Business Administration and Communication, Atma Jaya Catholic University of Indonesia, can be seen in the following Figure 1.

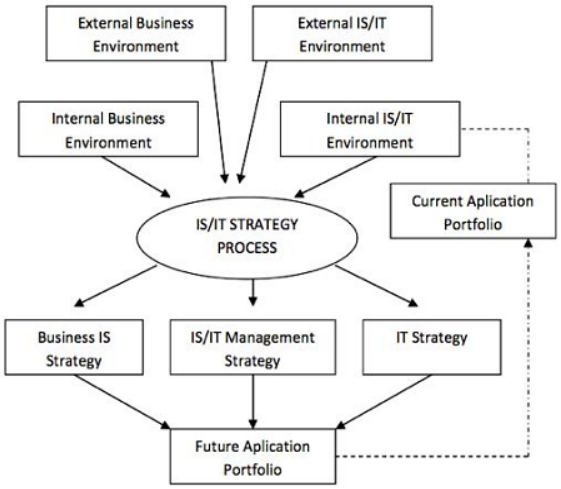

Figure 1. Ward and Peppard Framework

The strategic information system model shown in Figure 1, developed by Ward and Peppard, optimizes organizational/company performance by considering internal and external conditions with an aim to achieve both short-term business operations and long-term goals. According to [20], the outcomes of information system strategic planning can lead to innovation programs that support business operations. Conversely, [21] shows how the Ward and Peppard approach is used in strategic planning to address issues that may affect business operations. This suggests that internal and external analyses of organizations and companies can

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

benefit from the use of the McFarlan Strategy Grid approach, Value Chain Analysis, Politic Economy Social Technology (PEST), and Strength, Weakness, Opportunity Threat (SWOT).

The Ward and Peppard framework, as discussed in [17], incorporates the following: a business strategy tailored to the style of business decision-making, the organization's/company's goals and direction in operating a business, and business innovation; an information system strategy developed based on business interests, demand orientation, and application-focused approach; and an information technology strategy developed based on activity, supply orientation, and an activity-focused approach. These three points focus on business growth direction and the necessary technical support.

The advantages of the Ward and Peppard framework are evident in each stage of strategic planning for information systems. As noted in [22], the framework considers the internal and external conditions of the system. Furthermore, [23] outlines the stages in the Ward and Peppard framework as follows: increasing the effectiveness of information processing for decision-making; automating various information management processes for efficiency; and improving business process innovation to enhance competitiveness and competitive advantage. This emphasizes the importance of efficiency and effectiveness of systems based on business innovation and information systems that are relevant to business processes and organizational/company characteristics. In the Tourism Department of the Faculty of Business Administration and Communication at Atma Jaya Catholic University of Indonesia, the strategic planning of student guidance information systems can be carried out using the Ward and Peppard framework stages outlined in Figure 2.

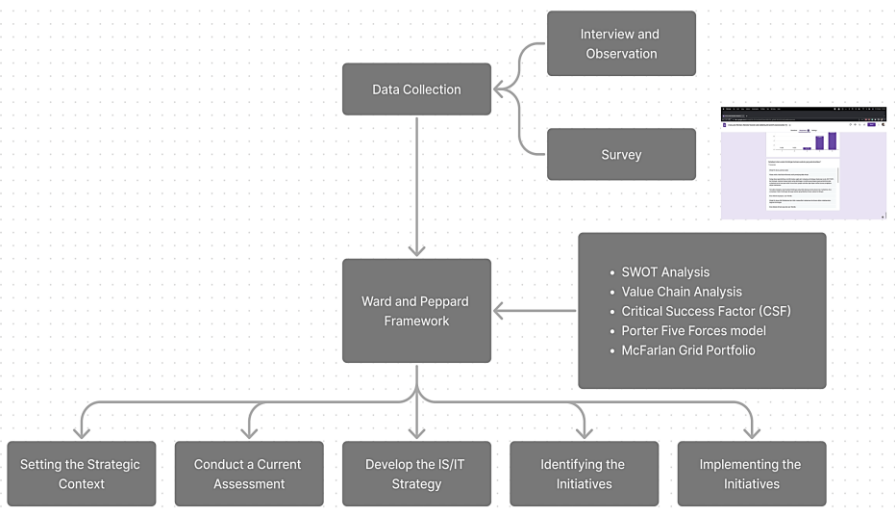

Figure 2. Research Stages based on Ward and Peppard Framework

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

The Ward and Peppard method is a proven approach to strategic planning for information systems, and the stages involved in planning for the student guidance information systems at the Faculty of Business Administration and Communication, Atma Jaya Catholic University of Indonesia's tourism department are illustrated in Figure 2. The first step in the Ward and Peppard method is to establish the strategic context by defining the business goals that the information system will support and identifying the key stakeholders involved. For the student guidance information system, the primary goal is to enhance the standard and effectiveness of the university's student guidance services, with students, academic staff, administrative staff, and university administration being the key stakeholders. Next, the current information systems and procedures related to student guidance services should be evaluated to determine their SWOT analysis, including strengths, weaknesses, opportunities, and threats. While the current system may be effective in the tourism department due to its strong student guidance team and history of student satisfaction, there may be opportunities for improvement, such as enhancing the technological infrastructure and expanding data access.

The third step involves creating an IS/IT strategy based on the findings of the evaluation. This step involves identifying the essential IT infrastructure, information systems, and technologies necessary to support the student guidance information system. For the tourism department, potential initiatives could include the development of a web-based student guidance portal, an integrated student information system, and the introduction of mobile devices for student access. The fourth step involves identifying specific initiatives needed to implement the IS/IT strategy, determining the resources required, and assessing the risks specific to each initiative. In the case of the tourism department, this may involve hiring more IT personnel, forming a project team, creating a thorough project plan, and acquiring the necessary hardware and software. Finally, the plans must be put into action, and the implementation progress must be monitored and assessed while managing the resources, deadlines, and risks of each initiative. The Ward and Peppard method offer a structured approach to information system strategic planning.

3. RESULTS AND DISCUSSION

The examination of these topics aims to provide a comprehensive understanding of the Ward and Peppard framework's significance in strategic planning for information systems. By discussing SWOT analysis, value chain analysis, critical success factor, Porter's Five Forces model, and McFarlan Grid Portfolio, this study sheds light on the different aspects that need to be considered when developing an information system's strategic plan using the Ward and Peppard framework. The insights gained from these discussions provide valuable guidance to

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

organizations and companies seeking to optimize their information system's performance and achieve their long-term goals.

3.1 Student Guidance Information System: SWOT, Value Chain Analysis, and Critical Success Factors (CSF)

The student Guidance Information System used in this study's strategic planning case is "SIBIMA." The Tourism Department, Faculty of Business Administration and Communication, Atma Jaya Catholic University of Indonesia, has customized SIBIMA's design to fit its organizational culture. The university encourages each department to implement policies supporting education management to achieve superior accreditation. An information system that records all activities is required to respond to procedures at a high level, improve the registration process, and implement thesis guidance. Concerning the thesis consultation process, SIBIMA is intended to maximize education management within a constrained context.

However, SIBIMA will continue to be improved regularly to support the administrative role in education. By adjusting for the needs of students, lecturers, tourism department heads, and study program secretaries, SIBIMA thus becomes the initial strategy for creating a tourism department. The SIBIMA use case at the Faculty of Business Administration and Communication, Atma Jaya Catholic University of Indonesia, was designed based on the findings of interviews and observations with actors who served as system users. The results are shown in Figure 3 below.

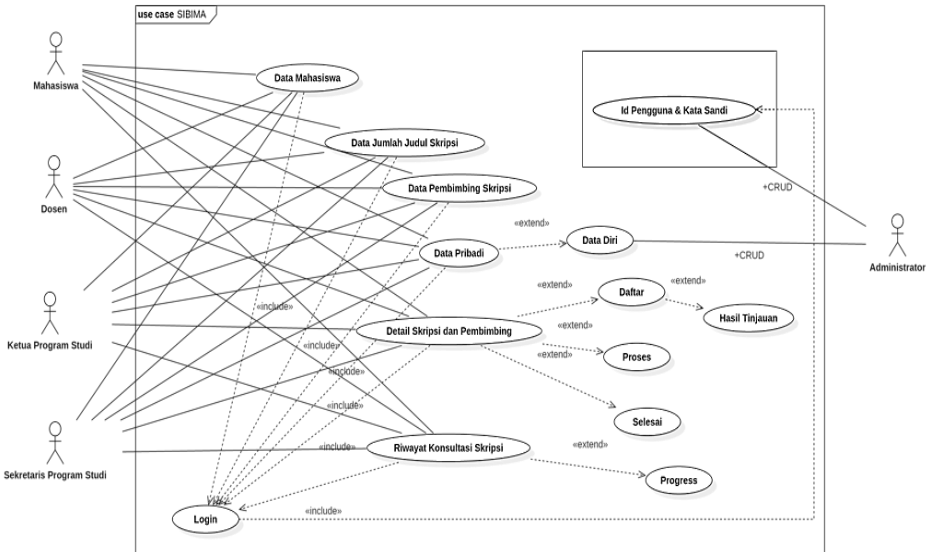

Figure 3. Use Case of SIBIMA

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

A SIBIMA use case for each actor is shown in Figure 3 and was created using a series of inquiries based on user classification. The tourism department's secretaries, leaders, lecturers, and students should use SIBIMA simultaneously. The administrator is also only in charge of information related to SIBIMA login access. Each actor is subject to restrictions based on their duties and functions to protect the privacy of confidential information or documents. Overall, several methods, including SWOT analysis, have been used to examine the strategic design of the SIBIMA application. The SWOT analysis of the current situation can be used to determine the advantages, disadvantages, opportunities, and threats of the SIBIMA design.

Table 1. SWOT Analysis of SIBIMA Application

Strength	**Weakness**
• The process of registering a thesis proposal can be done online, • The document upload process (prerequisites) is stored in the database so that it will not be scattered. • The document verification process can be carried out by the secretary of the tourism department and confirmed by the head of the tourism department. • The supervisor selection process is based on the lecturer's interest and publication history.	• All Users are required to use technological devices that support SIBIMA application operations. • All Users need sufficient adaptation time to understand the business process of the SIBIMA application. • Students, the head of the tourism department, the Secretary of the tourism department, and All Lecturers are required to operate SIBIMA, so it is necessary to regulate or adjust the activities of Tri Dharma lecturers with student learning activities.
Opportunity	**Threat**
• The guidance process can be done through virtual rooms or hybrids according to conditions, special requests, and agreements respectively. • The correction and confirmation process of each Chapter can be done online without having to face to face. • SIBIMA facilitates leaders in the process of monitoring or controlling student activity and study period. • SIBIMA is used to tidy up the administration that supports the accreditation of tourism department.	• Requires sufficient financial capital to purchase a technological device (smartphone/tablet/laptop/PC) that meets the specifications to operationalize the SIBIMA application. • SIBIMA cannot be accessed if there is no internet network. • A limited number of application managers for SIBIMA helpdesk services for all application users. • There needs to be financial support for SIBIMA application development regularly.

Atma Jaya Catholic University of Indonesia's Faculty of Business Administration and Communication Sciences' SIBIMA application is shown in Table 1, along with

a SWOT analysis of the tourism department. In response to each opportunity, SIBIMA uses its strengths to overcome weaknesses, reducing the likelihood of threats. With digital communication features, SIBIMA offers effectiveness and efficiency in registration, supervisor verification, document upload-download, manuscript correction, and monitoring or controlling student activity by the study period, specialization, and proposed Thesis topic. The results of the Value Chain Analysis of SIBIMA at the Faculty of Business Administration and Communication Sciences, Atma Jaya Catholic University of Indonesia, are shown in the picture below.

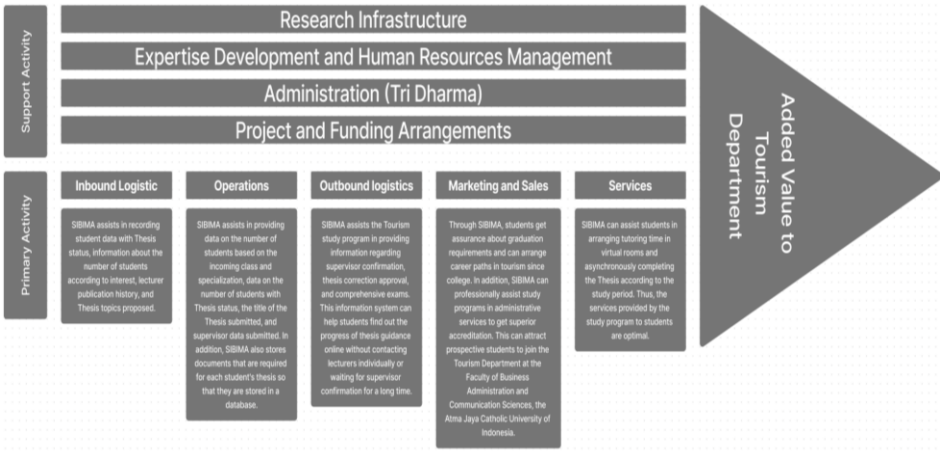

Figure 4. Value Chain Analysis of SIBIMA at the Tourism Department

Figure 4 is a value chain analysis modified and adjusted with the context of the tourism department and considered using Student Guidance Information Systems. Inbound logistics, The Tourism department can benefit from the Student Guidance Information System in managing student data and information from inbound logistics. Thesis status, information on the number of students by interest, lecturer publication history, and suggested thesis topics are all tools that SIBIMA uses to help keep track of student data. Information systems can assist the tourism department with decision-making during the operation stage based on student activity data and Thesis status during the study period of each batch. SIBIMA helps provide information on the number of students based on the incoming class and specialization, the number of students with thesis status, the title of the submitted thesis, and the supervisor offered. The documentation needed for each student's view is also kept by SIBIMA in a database.

In the Outbound logistics stages, SIBIMA offers information on supervisor confirmation, thesis correction approval, and comprehensive exams to the Tourism department. Students can use this information system to check the status of their thesis guidance online without speaking with individual lecturers or waiting

Journal of Information Systems and Informatics
Vol. 5, No. 2, June 2023
p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

an extended period for supervisor approval. If lecturers serve as supervisors and need to review the uploaded manuscript by the predetermined deadline, a reminder system is provided by SIBIMA. Through various resources made available to students working on a thesis as part of their graduation requirements, SIBIMA can assist in the marketing and sales stage by highlighting the benefits of the tourism department. Through SIBIMA, students can plan their career paths in tourism beginning in college and receive assurance about graduation requirements. Additionally, SIBIMA can provide the tourism department with administrative support on a professional level to obtain higher accreditation. This may entice potential students to enroll in the tourism program at the Atma Jaya Catholic University of Indonesia's Faculty of Business Administration and Communication Sciences.

The provision of customers with high-quality services during the service stages. Thanks to this information system, the tourism department can assist students with academic and career guidance. SIBIMA can help students schedule tutoring sessions in online classrooms and asynchronously complete their theses during designated study periods. The tourism department thus offers students the best services possible. Overall, SIBIMA aids the tourism division in enhancing the effectiveness and efficiency of each phase of its business procedures. This could enhance the quality of student services the tourism department offers and improve the institution's standing in tourism education. The user interface for the SIBIMA application is attached.

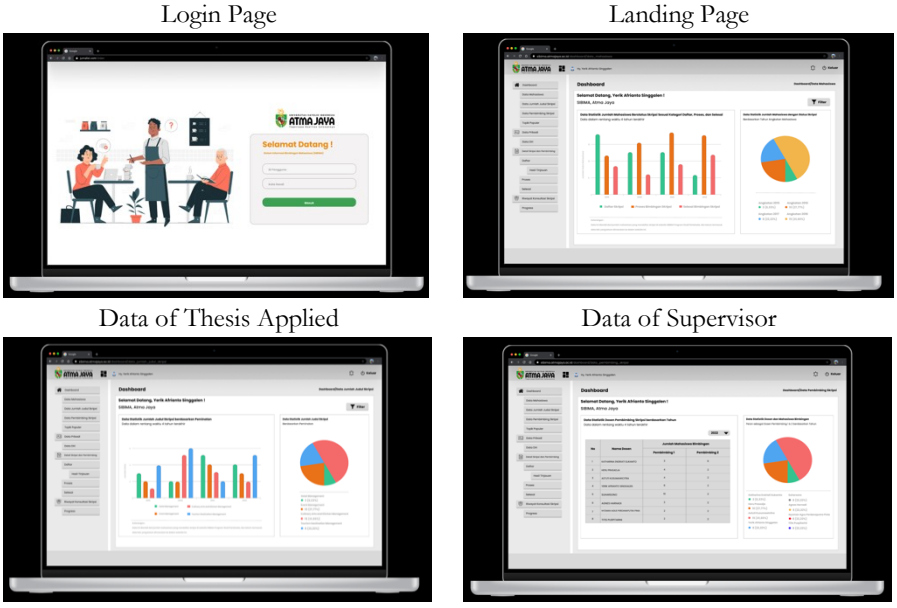

Figure 5. User Interface of SIBIMA

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

The number of students who have registered a thesis that can be tracked based on the background of the entrance force and specialization is the general data each actor needs, as shown in Figure 5. Furthermore, based on the status of the thesis (list, process, completed), each actor has access to information about the number of students in each batch. Based on the supervisor's name and status designation, both the first and second supervisors, each actor can also see the distribution of the number of mentors. This demonstrates how SIBIMA is made to accommodate students' needs to streamline the thesis consultation procedure until it is finished on time. While this happens, lecturers can use SIBIMA to record revision records based on uploaded documents without engaging in dishonest behavior. According to the requirement for evaluation meetings at the study program, faculty, and university levels, the head of the study program may also download all student data. The study program director can monitor SIBIMA and use it to speed up the accreditation process assessment.

The purpose of SIBIMA design emphasizes the effectiveness and efficiency of the student guidance process, increasing student satisfaction or the accuracy of student guidance data, based on the findings of SIBIMA's Critical Success Factor (CSF) analysis. The results of the identification of critical factors also reveal the existence of several factors that are crucial to the success of SIBIMA operations, including the technical proficiency of the staff members responsible for managing information systems, the availability of adequate funding for the implementation and upkeep of information systems, the availability of good technological infrastructure, such as a reliable internet connection and high-quality hardware, and the availability of support and training. The technical expertise of a team managing information systems and the availability of a sufficient technology infrastructure are fundamental elements in the successful implementation of SIBIMA. It can be inferred from the results of the priority analysis.

3.2 Student Guidance Information System: Porter's Five Forces Model and McFarlan Grid Portfolio

SIBIMA can help students by providing direction and guidance, according to the findings of Porter's Five Forces Model analysis of SIBIMA development in the Tourism Department. Porter's Five Forces Model, a tool for business strategy analysis, is used to determine the competitive forces in a given industry. The following strengths can be noted: If every university, faculty, and study program has a similar system, a substitute product may exist, in which case SIBIMA must add value SIBIMA must provide advantages in terms of effectiveness, efficiency, and flexibility for students, particularly when compared to various educational services outside the formal educational institutions of Higher Education, to compete with these services and features, without escalating competition among competitors.

The next strength is the bargaining of suppliers in the form of vendors or information system service providers with similar functions that have been marketed with more optimal services. To deal with suppliers' bargaining power, SIBIMA must be optimized through a regular update program according to the needs of system users so that it is reliable and quality. The next strength is the bargaining of buyers, in this case, students as users of educational services who use SIBIMA. To deal with buyers' bargaining power, SIBIMA must be effective and efficient in guiding so that they can complete studies according to the study period of each batch. Another strength is the entry of new competitors; this can happen if some other departments or universities create similar student guidance information systems. To deal with this threat, this information system must continue to improve quality and provide added value.

Based on the results of the McFarlan Grid Portfolio analysis of the implementation of SIBIMA in the Tourism Department, it can be seen that students need SIBIMA to increase effectiveness and efficiency in the guidance process. Based on the results of a survey of students who have registered for a thesis, it is known that statements related to the need for SIBIMA received a positive response, where as many as 50% gave a very agreeable reaction, 37.5% gave an affirmative answer, and 12.5 gave a neutral response, as shown below.

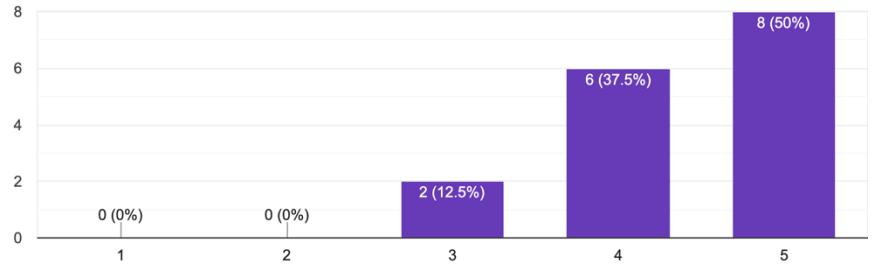

Figure 6. Student Response to the Needs of SIBIMA in the Tourism Department

An analysis of the SIBIMA needs of students in the tourism department is shown in Figure 6. Additionally, the outcomes of SIBIMA's business processes, when successfully implemented in the Tourism Department, can be understood as follows: financial support; human resources as administrators or operators formally assigned through Decrees at the University, Faculty, and Study Program levels about the scope of work in SIBIMA operations to optimize services to students; financial support for updating or maintaining SIBIMA website features to adapt technological advancements and the needs of all users regularly; Additionally, for the guidance process to be effective and efficient, all users must support learning the rules for using the SIBIMA application.

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

It can be divided into external and internal categories based on the identification of application portfolio categories used by the university. The government creates information systems called external applications to improve monitoring or control of higher education activities in a specific region. On the other hand, internal applications are information systems that universities create to optimize the operations of higher education institutions, including academic staff and educators. The design of the SIBIMA application to optimize the student thesis guidance process is the strategic program for 2023, as shown in Table 3 below, according to the findings of the McFarlan Application Portfolio analysis.

Table 3. McFarlan Application Portfolio

Strategic	**High Potential**
Student Guidance Information System (SIBIMA)	• Management Information System for Tourism Department Internship Program • Laboratory Management Information System of Tourism Department • Research and Community Service Information System Lecturer of Tourism Department
Key Operational	**Support**
• SEKATA • My Atma • AIDA • etc	• SISTER • SIJALI • SIJAMPANG • etc

The analysis of the application portfolio for the Atma Jaya Catholic University in Indonesia is shown in Table 3 and is based on strategic, high potential, key operational, and support categories. The strategic type in the Student Guidance Information System application denotes that the system is crucial and strategic in achieving the institution's long-term objectives. In this instance, the Student Guidance Information System contributes positively to achieving institutional goals by enhancing the standard of instruction and the educational experience for students. The system needs thorough planning, a distinct strategy, and total institutional support regarding budget and human resources. To continue to benefit and add value to the institution, continuous evaluation and further development of this system must be carried out.

Institutions can gain from analyzing the Student Guidance Information System using the McFarlan Grid Portfolio in several ways. First, by understanding the role and priorities of the Student Guidance Information System in achieving the institution's long-term objectives, this analysis can help the institution. Second, using this analysis, institutions can decide how best to allocate funds to create and maintain these systems. Third, this analysis can help institutions manage the

Student Guidance Information System by identifying risks and potential issues. Fourth, this analysis can help institutions develop and maintain student guidance information systems that align with their objectives and needs. As a result, this analysis can help institutions achieve their long-term goals and increase the efficacy and efficiency of using student guidance information systems.

4. CONCLUSION

This study has revealed that SIBIMA can benefit from the implementation of Ward and Peppard's framework in its strategic planning. Utilizing various analytical techniques, including SWOT analysis, value chain analysis, critical success factor (CSF), Porter's Five Forces model, and McFarlan Grid Portfolio, SIBIMA can respond to opportunities by leveraging its strengths to overcome weaknesses, ultimately reducing the risk of potential threats. With digital communication features, SIBIMA provides effectiveness and efficiency in registration, supervisor verification, document upload-download, manuscript correction, and monitoring or controlling student activity by the study period, specialization, and proposed Thesis topic. Thus, it is evident that SIBIMA is a highly strategic application in support of the objective of elevating educational quality.

ACKNOWLEDGEMENT

Thanks to *Lembaga Penelitian dan Pengabdian Masyarakat* (LPPM) of the Atma Jaya Catholic University of Indonesia due to the grant and support for this research and publication.

REFERENCES

[1] U. Kasma, "Perencanaan Strategis Sistem Informasi Untuk Meningkatkan Persaingan Kompetitif," *CSRID (Computer Sci. Res. Its Dev. Journal)*, vol. 11, no. 3, p. 149, 2021, doi: 10.22303/csrid.11.3.2019.149-157.

[2] R. Yogaswara *et al.*, "Perencanaan Strategis Sistem Informasi Hotel Xyz Balikpapan," *J. Sist. Inf. dan Ilmu Komput. Prima(JUSIKOM PRIMA)*, vol. 5, no. 2, pp. 1–6, 2022, doi: 10.34012/jurnalsisteminformasidanilmukomputer.v5i2.2126.

[3] M. B. Nugraha, G. Pralebda, and R. S. Dewi, "Perencanaan Strategis Sistem Informasi Pada Universitas XYZ Menggunakan Metode Ward and Peppard," *JURIKOM (Jurnal Ris. Komputer)*, vol. 7, no. 1, p. 34, 2020, doi: 10.30865/jurikom.v7i1.1788.

[4] C. Sylvia and A. Angela, "Perencanaan Strategis Sistem Dan Teknologi Informasi Pada Stmik – Stie Mikroskil Menggunakan Metode Ward & Peppard," *Sebatik*, vol. 23, no. 2, pp. 592–603, 2019, doi: 10.46984/sebatik.v23i2.816.

[5] E. Rosliani and D. Rahayu, "Strategic Planning of Hospitality Information System Using The Ward and Peppard Approach Case Study at Buleud Villa Garut District," *RISTEC Res. Inf. Syst. Technol.*, vol. 3, no. 2, pp. 42–67, 2022.

[6] N. Y. Priambodo and J. S. Suroso, "Perencanaan Strategis Sistem Informasi dan Teknologi Informasi pada STIE Pertiba Pangkalpinang," *Technomedia J.*, vol. 7, no. 3, pp. 323–339, 2023, doi: 10.33050/tmj.v7i3.1909.

[7] P. H. Widyantoro and C. Rudianto, "Perencanaan Strategis Sistem Informasi Menggunakan Metode Ward & Peppard (Studi Kasus : CV. Berkah Rezki Solusindo)," *J. Tek. Inform. dan Sist. Inf.*, vol. 9, no. 4, pp. 3238–3249, 2022, doi: 10.58344/locus.v1i3.28.

[8] A. Ikhwan and R. Hendri, "Analisis Perencanaan Strategs Sistem Informasi Dan Teknologi Informasi Menggunakan Framework Ward Dan Peppard Studi Kasus: Fakultas Komputer Umitra Indonesia," *J. Teknol. dan Inform.*, vol. 1, no. 1, pp. 1–12, 2020.

[9] S. Meitarice, M. Sari, M. Meidiana, R. Adhawiyah, and V. Febriyanti, "Information System Strategic Planning DPMPTSP Riau Province using Ward and Peppard Method," *Sistemasi*, vol. 11, no. 3, pp. 735–748, 2022, doi: 10.32520/stmsi.v11i3.2101.

[10] J. Sumah, W. W. Winarno, and M. P. Kurniawan, "Analisis Perencanaan Sistem Informasi Menggunakan Metode Ward And Peppard Pada Universitas Kristen Indonesia Maluku," *Res. J. Comput. Inf. Syst. Technol. Manag.*, vol. 4, no. 2, pp. 119–130, 2021, doi: 10.25273/research.v4i2.8244.

[11] W. Agustiono, M. C. Fajrin, and F. H. Rachman, "Rencana Strategi Teknologi Informasi pada Perguruan Tinggi di Indonesia: Sebuah Tinjauan Pustaka," *Sistemasi*, vol. 10, no. 1, pp. 197–211, 2021, doi: 10.32520/stmsi.v10i1.1145.

[12] I. W. W. Karsana, I. M. Candiasa, and G. R. Dantes, "Perencanaan Strategis Sistem Informasi dan Teknologi Informasi Menggunakan Framework Ward and Peppard pada Sekolah Bali Kiddy," *J. Rekayasa Teknol. Inf.*, vol. 3, no. 1, pp. 30–37, 2019, doi: 10.30872/jurti.v3i1.2274.

[13] M. Romantia, R. Santi, and U. M. Putri, "Perencanaan Strategis Sistem Informasi dengan Menggunakan Metode Ward and Peppard," *JRST (Jurnal Ris. Sains dan Teknol.*, vol. 7, no. 1, pp. 15–23, 2023, doi: 10.30595/jrst.v7i1.13761.

[14] M. Pendekatan and M. Ward, "Perencanaan Strategis SI / TI Pada SMAI Al Azhar 10 Pontianak IS / IT Strategic Planning at SMAI Al Azhar 10 Pontianak Using Ward & Peppard," *J. Sist. dan Teknol. Inf.*, vol. 11, no. 1, pp. 102–112, 2023, doi: 10.26418/justin.v11i1.54969.

[15] J. N. Kho and A. F. Wijaya, "Perencanaan Strategis SI/TI di SMA YPK Diaspora Menggunakan Ward and Peppard," *JATISI (Jurnal Tek. Inform. dan Sist. Informasi)*, vol. 9, no. 3, pp. 2041–2054, 2022, doi:

10.35957/jatisi.v9i3.2286.

[16] D. Irmayanti and I. Kaniawulan, "Perencanaan Strrategis Sistem Informasi di Sekolah Tinggi Teknologi XYZ Purwakarta," *PRODUKTIF*, vol. 4, no. 1, pp. 295–301, 2020, doi: https://doi.org/10.35568/produktif.v4i1.746.

[17] Y. A. Singgalen, "Strategic Planning of Morotai Tourism Village Information System (SIDEWITA) Using Ward and Peppard Method," *J. Inf. Syst. Informatics*, vol. 5, no. 1, pp. 134–149, 2023, doi: 10.51519/journalisi.v5i1.442.

[18] Y. A. Singgalen, "Strategic Planning of Ecotourism Management System Using Ward and Peppard Framework," *J. Inf. Syst. Informatics*, vol. 4, no. 2, pp. 216–232, 2022, doi: https://doi.org/10.51519/journalisi.v4i2.245.

[19] E. Widodo and Y. A. Singgalen, "Strategic Planning of Regional Tourism Information System of Morotai Island Regency using Ward and Peppard Framework," *J. Inf. Syst. Informatics*, vol. 4, no. 3, pp. 556–573, 2022, doi: 10.51519/journalisi.v4i3.282.

[20] N. P. Desyana and M. N. N. Sitokdana, "Implementation of Ward and Peppard in Information Systems Strategic Planning (Case Study: Hotel Kartika Bandungan)," *J. Inf. Syst. Informatics*, vol. 4, no. 3, pp. 784–794, 2022, doi: 10.51519/journalisi.v4i3.284.

[21] L. J. Pratiwi, S. Astiti, and R. Setyadi, "Perencanaan Strategis Sistem Informasi pada Politeknik Bhakti Semesta Menggunakan Metode Ward and Peppard," *JURIKOM (Jurnal Ris. Komputer)*, vol. 9, no. 4, pp. 1103–1111, 2022, doi: 10.30865/jurikom.v9i4.4722.

[22] D. C. Tallo and F. S. Papilaya, "Perencanaan Strategis Sistem Informasi Menggunakan Metode Ward and Peppard Pada Dinas Pariwisata Kabupaten Timor Tengah Selatan," *J. Inf. Syst.*, vol. 3, no. 2, pp. 378–391, 2021, doi: 10.46984/sebatik.v25i2.1441.

[23] A. Wedhasmara, "Langkah-langkah Perencanaan Strategis Sistem Informasi dengan Menggunakan Metode Ward and Peppard," *J. Sist. Inf.*, vol. VOL. 1, NO, no. 1, pp. 14–22, 2009.