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Strategic Planning of Regional Tourism Information System of Morotai Island Regency using Ward and Peppard Framework

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Abstract

The tourism development program in Indonesia is not central but decentralized so that each autonomous region has the authority to determine the direction of policies and strategies for developing tourism potential in their respective areas. In the context of the Morotai Islands regency, an integrated regional tourism information system has not been designed to control and synchronize stakeholders' interests and optimize the marketing of regional tourist destinations. Considering this, this study offers the Ward and Peppard framework for the strategic design of *Sistem Informasi Pariwisata Daerah (*SIPARDA) as a website-based application that can be used for data collection and monitoring of regional tourism resources as well as tourism destination development programs in Morotai Island Regency. This study shows that the identification of external and internal conditions of the business environment is not limited to the Value Chain approach and Porter's Five Forces Model but also the Tourism Area Life Cycle and Irritation Index to understand the context of regional tourism-related to tourism resources both attractions, accommodation, amenities, and accessibility, as well as the level of acceptance of the Morotai people towards tourism development programs. Furthermore, identifying the current internal and external conditions of information systems or information technology in the portfolio application is analyzed based on Strenght, Weaknesses, Opportunities, and Threats (SWOT) to provide recommendations for future application portfolios. The results of this study recommend the Regional Tourism Information System known as *Sistem Informasi Pariwisata Daerah* (SIPARDA) as a portfolio future application that needs to be prioritized to optimize the function of monitoring tourism development in the Morotai Island Regency.

Keywords: *Strategic Planning, Information System, SIPARDA, Morotai Regency*

1. INTRODUCTION

Strategic planning of information systems using the Ward and Peppard method can provide an overview of business processes and the benefits of applying to achieve institutional goals. In tourism, strategic planning of information systems in the tourism sector is limited to optimizing the management of tourist destinations by integrating economic, environmental, socio-cultural, and governmental or political interests [1], [2]. In addition, [3] points out that to optimize the tourism sector, strategic planning of hospitality information systems is also needed to obtain an overview of the benefits of digitizing business processes from the perspective of the value chain and Porter's five forces related to competitiveness in the hospitality market. The tourism information system needs to be planned by considering the value chain for competitiveness to encourage the growth of Indonesia's tourism sector.

The Ward and Peppard approach has its advantages compared to the Zachman Framework approach [4], The Open Group Architecture Framework Architecture Development Model (TOGAF ADM) [5], and IT-IL [6]. [7] out that the Zachman Framework emphasizes the managerial aspect of helping to group elements in an enterprise and is simpler because it has two dimensions. However, compared to TOGAF ADM, the Zachman framework does not yet have dimensions that discuss gaps, governance, and management change [5]. On the other hand, [6] also shows that the IT-IL framework emphasizes integrated and process-based IT service management more. After considering the advantages of each framework, the context of designing a regional tourism information system in the Morotai Island Regency is more relevant to the Ward and Peppard approach, which emphasizes not only the architecture of information technology but also business processes that are by the needs of the institution.

This research offers constructive ideas by designing a strategic planning scheme for the regional tourism information system, *Sistem Informasi Pariwisata Daerah (*SIPARDA). Specifically, the SIPARDA application is a forum for inventory and visualization of destination data integrated with information on attractions, accommodation and amenities, accessibility (4A), tourist visits, and income from ticket sales to each destination. In addition, the SIPARDA application can also display policy directions and tourism development strategies based on programs that have been realized or that have not been realized according to the context of the Morotai Island Regency area. Empirically, the benefits of strategic planning of the regional tourism information system of the Morotai Island Regency can be used by all stakeholders to optimize the function of controlling or monitoring the growth of the tourism sector. Theoretically, the benefits of strategic planning of the tourism information system in the Morotai Island Regency are the result of digitalization discourse and development issues through the effects of tourism studies in the outermost regions of Indonesia.

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This research is a development of the results of a study on tourism in Morotai Island Regency which discusses the participation of local communities in the development of tourism on Morotai Island [8], environmental changes as a result of land use for tourism infrastructure development [9], ecological control or supervision of mangrove forests on Dodola Island which have the potential to be developed as an ecotourism attraction [10], [11]. Based on the results of studies on tourism on Dodola Island, an integrated information system is needed that connects the local government as a determinant of policy direction and development strategy, as well as various stakeholders engaged in the accommodation, amenity, and accessibility, attractions businesses. To synergize interests that are inventoried digitally, strategic planning of the *Sistem Informasi Pariwisata Daerah (*SIPARDA) is needed.

The framework used in the strategic planning of the regional tourism information system of the Morotai Island Regency is adapted to the Ward and Peppard Framework. The strategic information system planning in this study differs from the study of information systems based on the framework of The Open Group Architecture Framework (TOGAF), which emphasizes the government bureaucracy, especially the Tourism Office in Morotai Island Regency [12]. SIPARDA's design is based on the Ward and Peppard Framework. It emphasizes a holistic approach to regional tourism destination management by using several analytical techniques such as Tourism Area Life Cycle (TALC), irritation index, and value chain, porter's five forces analysis. Thus, it can be seen that the design of the SIPARDA system supports not only the bureaucracy of local governments, especially the Tourism Office of Morotai Island Regency but also inventory tourism resources and various programs for resource utilization and optimization.

Designing a tourism information system using Ward and Peppard is a popular approach used as strategic planning for developing government and private institutions in the tourism sector. Likewise, [13] designed the information system of the Tourism Office of South Central Timor Regency using the Ward and Peppard Framework. In addition, [12] uses the Ward and Peppard framework in the strategic planning of the information system of tourism transport companies. This shows that the empirical contribution of the strategic design of information systems of various institutions or institutions is needed to accelerate the growth of the tourism sector in multiple regions through technology. Thus, the strategic plan of the tourism information system in this study will adjust the context and availability of tourism resources in Morotai Island Regency to produce optimal outputs.

2. METHODS

The strategic design of the regional tourism information system adopts the Ward and Peppard Framework. [14] In information system planning, several aspects must be considered: Scope and Rationale; Information System function; Investment and Prioritization Policies; Vendor Policies; Human Impact Policies, Including Education; Information System Accounting Policies. Generally, the aspects that have been previously outlined need to be analyzed to formulate the objectives and strategies of the design. In addition, an analytical approach that can be used is Value Chain Analysis, Porter's Five Forces Model, and Critical Success Factors (CSFs). However, in the context of tourism in the Morotai Island Regency, several analytical approaches must be considered, namely the Tourism Area Life Cycle (TALC) and irritation index. Meanwhile, the stages in this study can be seen in the following figure.

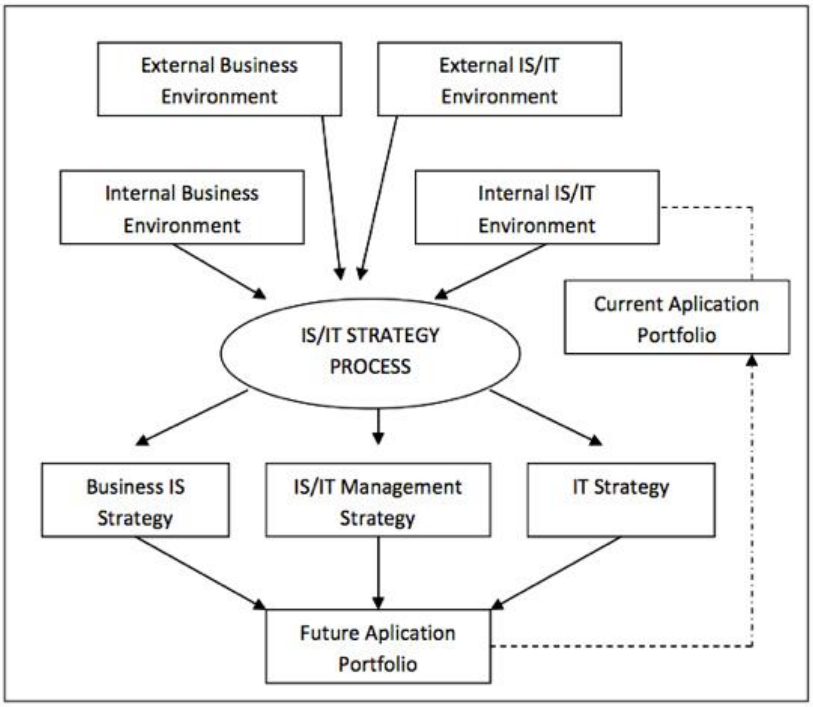

Figure 1. Ward and Peppard Framework

Figure 1 shows that designing an information system needs to consider the external and internal conditions of the business environment and the internal and external conditions of the Information System environment. Furthermore, establishing a strategic information system needs to be adjusted to the business strategy, management, and information technology development strategy by

recommending future portfolio applications by considering the current application portfolio. In this case, identifying the internal and external conditions of the business environment can use the Value Chain and Porter's Five Forces Model. Furthermore, the information system's internal and external needs are adjusted to the current application portfolio to be analyzed based on Strengths, Weaknesses, Opportunities, and Threats (SWOT). In addition, the context of tourism will be analyzed using the Tourism Area Life Cycle (TALC) and Irritation Index as recommendations for the future application portfolio for the Regional Tourism Information System.

The research process to obtain complete data according to user needs begins with socio-cultural studies using a qualitative approach with in-depth interviews, observations, and document studies [15]. In-depth interviews were conducted with key informants with diverse backgrounds, namely civil servants working in the Morotai Island District Tourism Office, World War II history tour guides at the *Museum Trikora*, Moro Madoto resort managers, and village governments, and managers of tourist attractions, including Dodola island. After conducting the interview process, it can be seen that there are several urgent needs for synchronization of interests in the Moortai tourism sector, including a system that accommodates aspirations, data, and plans for the development of Morotai tourism in the future. Meanwhile, a document study is needed to study the existing conditions of data management related to amenity, accessibility, accommodation, and attractions in the limited Morotai Island Regency. The results of in-depth interviews, observations, and document studies were carried out, triangulation techniques to obtain relevant, valid, and credible information.

The results of the triangulation of previous research data refer to several recommendations as follows: first, a website-based information system is needed that encourages the performance of the Pariwisasta Office of The Morotai Island Regency to inventory data related to attractions, amenities, accommodation, and accessibility; second, a website-based information system that is integrated with the tourism office of Morotai Island Regency is needed in monitoring mangrove ecotourism in the Morotai Island Regency area; third, a website-based information system that is integrated with the tourism office of Morotai island regency is needed in encouraging the initiative of the people of Morotai Island to develop the potential of the village into a tourist attraction using a tourism village approach. Based on these three recommendations, the systems designed are the *Regional Tourism Information System (SIPARDA), the Mangrove Ecotourism Management Information System (SIMANGROVE), and the Tourism Village Management Information System (SIDEWITA).* Meanwhile, the design of SIMANGROVE has been studied as a form of follow-up to the recommendations of previous research results [1], [2]. Thus, it can be known that identifying the needs of system users is a combination of two research approaches, namely qualitative research methods and information system research methods.

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3. RESULTS AND DISCUSSION

3.1 Regional Tourism Information System: Tourism Area Life Cycle (TALC) and Irritation Index

The strategic design of the tourism information system needs to consider the concept of the Tourism Area Life Cycle (TALC) and Irritation Index to identify the business's external environment to meet the information system demand. [16] shows that the development of tourism destinations can be reviewed based on the time and number of tourist visits in tourist destinations which, along with their product, indicate various dynamics such as exploration, involvement, development, consolidation, stagnation, rejuvenation, reduced growth, stabilization, decline, and immediate decline [17], [18]. The dynamics in the development of tourist destinations can be from the perspective of the Tourism Area Life Cycle (TALC) can be described as follows.

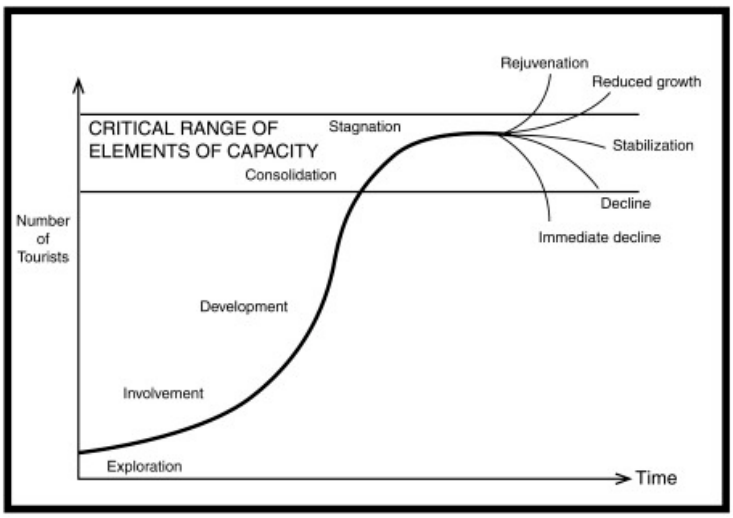

Figure 2. Tourism Area Life Cycle (TALC)

Figure 2 is an overview of the cycle of tourist destinations that tourists frequent from time to time. [19] explains that tourist destinations at any given time will experience stagnation that needs to be intervened to stabilize or increase. If no rejuvenation indicates renewal, then the goal has the potential to decline or immediate decline. On the other hand, [20] shows that the TALC approach helps identify the existing conditions of tourism destiny internally and externally in the tourism business environment. This suggests that TALC can be used to identify internal and external needs of the tourism business environment that can be compared with the Value Chain and Porter's Five Forces approach in subsequent discussions. To understand the TALC approach in the context of the Morotai

Island Regency, it is necessary to conduct a scientific search related to tourism on Morotai Island.

Previous studies have described Morotai Island as an essential part of World War II history [21]. This is the background for determining regional tourism themes that are developed according to the characteristics of historical and marine tourism [22]. On the other hand, [23] emphasized that the area of small islands in the Morotai Island Regency has a very high economic potential if it is developed as a Special Economic Zone (SEZ) for tourism. Furthermore, [24] shows that Morotai tourism has superior prospects if tourism resources such as accommodation, amenities, accessibility, and attractions are optimally developed.

The existing condition of Morotai Island has reflected Tourism Area Life Cycle (TALC) stages as follows: *Exploration stages*, where tourists have found several tourist attractions such as the sands of Dodola Island, Kolorai, the location is difficult to reach but in demand, and the environment is not polluted and deserted; *Involvement stage*, local communities participate in the management of tourist destinations, there is an increase in tourist visits, the promotion of tourist destinations begins to be intense on social media, and there are local community initiatives to build regional tourism; *In the development stage*, outside investments began to enter such as *Moro Ma Doto* resort. Regions are increasingly open with Special Economic Zones (SEZ) policies and National Priority Pariwisat Destinations (DPN). As well as a large number of artificial attractions developed to add to the original or natural attractions; *Consolidation stage*, the number of tourist visits is still increasing; old facilities are starting to be abandoned and damaged, and investment in accommodation has begun to be controlled by outside financiers. This shows that the existing condition of tourism in the Morotai Island Regency has already started to enter the consolidation stage, so a strategy is needed to anticipate the negative impacts caused by the stagnation period.

The existing condition of Morotai tourism in the consolidation stage needs to be reviewed in depth using the Irritation Index perspective to determine the level of public acceptance of tourism activities. [25] shows that public acceptance of tourist activities can be reviewed based on the economic, socio-cultural, and environmental fields. In the economic context, several indicators show the response to tourist activities: job opportunities, people's income, and prices. In the socio-cultural context, several indicators show the reaction to the presence of tourist activities, namely arts and customs and social changes. Likewise, in the environmental context, several indicators show the sentiments of local communities, namely environmental maintenance and preservation and environmental damage. Meanwhile, [26] classifies community responses based on levels, phase euphoria, apathy, annoyance, and antagonism, as shown below.

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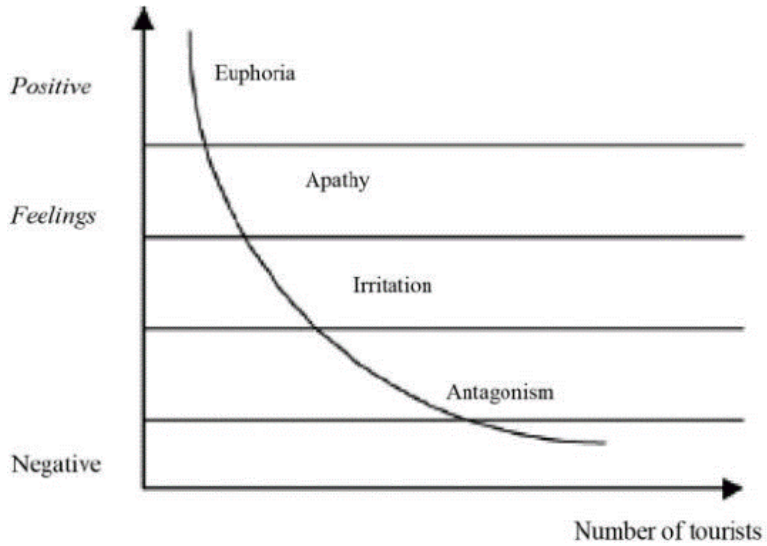

Figure 3. Doxey's Irritation Index

In the euphoria phase, it is described that local communities are beginning to engage in tourism development, the same condition as the involvement and development stage in the TALC approach. Furthermore, the apathy phase is illustrated by the relationship between local people and tourists in tourism economic activity. Then, in the Annoyance phase, it is described that destination management is starting to approach the saturation point, where policyholders are looking for solutions to optimize resources and infrastructure development. The Phase Annoyance in the Irritation index describes the same conditions as the stagnation stage in the TALC. In addition, the Antagonist phase in the Irritation Index describes a situation where open social friction due to the presence of tourists and tourists is considered the cause of problems in a destination. Phase Antagonists in the TALC approach determine whether the goal remains stable or decreases instantly.

The level of community acceptance on Morotai Island of tourism development in the perspective of the Irritation Index shows an indication of the Apathy phase, where the relationship between tourists and local communities in economic activity is well established. This is manifested in the mutually beneficial relationship between the giver and recipient of tour guide services to the profits obtained from the sale of marine tour packages on Morotai Island. When connected with the TALC perspective, it can be seen that the existing condition of Morotai Island tourism is in the consolidation stage, where outsiders are allowed to invest in the tourism sector. This shows that the current situation of Morotai Island tourism in the perspective of the TALC and Irritation Index shows the state of the critical range of elements of capacity where it is necessary to prepare an

anticipatory strategy for the harmful and destructive impacts. This study offers constructive ideas as a prevention strategy using the Regional Tourism Information System known as *Sistem Informasi Pariwisata Daerah* (SIPARDA) to monitor the utilization of tourism resources related to attractions, accommodation, amenities, and accessibility on Morotai Island.

The Information System demand can be adjusted to the results of the Tourism Area Life Cycle (TALC) and Irritation Index analysis. This shows that the internal and external conditions of the dynamics of regional tourism development need to be adjusted to the characteristics of a system that not only meets the needs of users in each agency but is also adaptive to respond to disruptive tourism conditions. Thus, the strategic planning of information systems can proceed to the analysis stage of the internal and external environment using various approaches to business processes using Value Chain Analysis, competitiveness using Porter's Five Forces Model, and evaluation of the current portfolio of applications for a further recommendation of application.

3.1 Regional Tourism Information System: Value Chain, Porter's Five Forces Analysis, SWOT of Current Application Portfolio, and Future Application Portfolio.

The strategic planning of regional tourism information systems needs to be comprehensively analyzed from various perspectives, such as value chain analysis, porter's five forces analysis. Previous studies have shown that the value chain perspective can provide an overview of primary and secondary activities in creating a competitive value chain [27]. In addition, [28] shows that Porter's five forces model is an analytical approach that shows the existing condition of institutions with current application portfolios and illustrates competitive opportunities after using future application portfolios. Based on this, it is necessary to conduct a comprehensive study of the existing condition of the institution after using the regional tourism information system.

The Tourism Office of Morotai Island Regency has the main task of carrying out local government affairs based on the principle of autonomy and assistance duties in the field of tourism, where there are five primary functions, namely: first, supporting the main responsibilities of the tourism office, carrying out operations based on the primary duties and procedures in the regulation of the Regent of Morotai Island number 38 of 2016 by formulating, establishing and coordinating the implementation of technical policies in the field of destinations and the tourism industry, the field of tourism marketing, and the field of creative economy; second, the administration of government affairs and public services in the field of tourism; third, coaching and carrying out tasks in the field of tourism; fourth, the implementation of facilities and control of the implementation of tasks in the field of destinations and the tourism industry, the field of tourism marketing,

and the field of creative economy; fifth, the performance of coordination and cooperation in the framework of the main tasks and functions of the service.

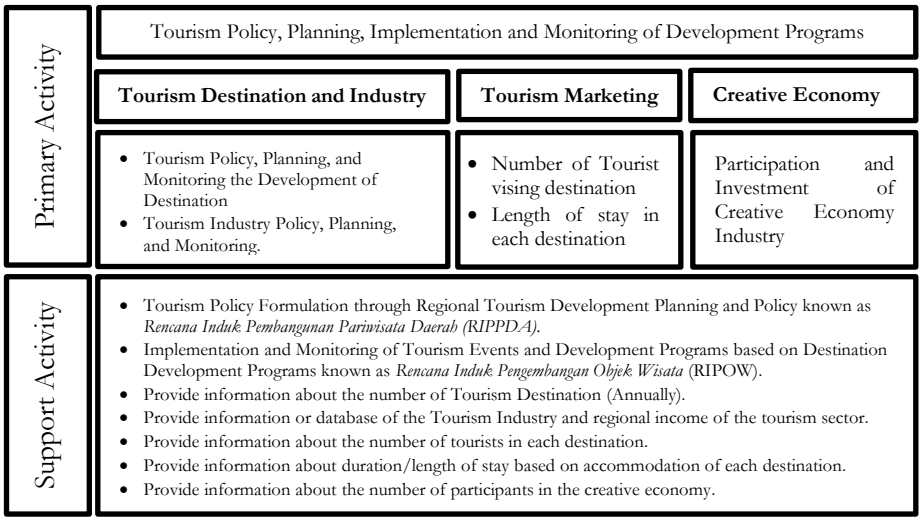

Figure 4. Value Chain Analysis of SIPARDA

Figure 4 shows the Morotai Island Regency Tourism Office's primary and secondary activity, showing three main areas with integrated functions. The intended fields are tourism industry and destination, destination marketing, and creative economy. Each lot has an integrated process: formulating policies, planning programs, implementing programs, and monitoring tourism development programs. Nonetheless, descriptively more technical activities can be known as follows: Tourism Policy Formulation through Regional Tourism Development Planning and Policy known as *Rencana Induk Pembangunan Pariwisata Daerah (RIPPDA);* Implementation and Monitoring of Tourism Events and Development Programs based on Destination Development Programs known as *Rencana Induk Pengembangan Objek Wisata* (RIPOW); Provide information about the number of Tourism Destination (Annually); Provide information or database of the Tourism Industry and regional income of the tourism sector; provide information about the number of tourists in each destination; Provide information about duration/length of stay based on accommodation of each destination; Provide information about the number of participants in the creative economy. To optimize the main tasks and functions of each field, this study offers a regional tourism information system known as *the Regional Tourism Information System (SIPARDA)* that can increase competitiveness by integrating information technology or information systems with the tasks of each field, as shown in the following table.

Tabel 1. Modification of Porter's five forces due to Tourism Information System Analysis

Porter's Five Forces Factors in Tourism Information System	**Balance Power of SIPARDA**
Rivalry among Destination Management Organization	Each local government has developed an integrated and digital bureaucratic system. SIPARDA offers features, functions, and databases by the 4A concept and to the needs of the Tourism Office in integrating policy directions, strategies, and development programs in each destination for annual evaluation.
The threat of New Entrants (New Tourism Destination)	Each village government can use SIPARDA to input data on tourist attractions to show the uniqueness and diversity of tourism potential that has competitiveness with other tourist destinations that have been known before.
The threat of Substitute Attraction in Tourism Destination	SIPARDA provides a feature to accommodate information related to attraction, accommodation, amenity, and accessibility through an aesthetically pleasing and easy-to-understand interface for beginners.
Bargaining power of User preference based on application usability	SIPARDA is flexible to change features and functions to adapt to the trend/popularity of tourists' preferences and needs.
Bargaining power of Tourism Stakeholders	SIPARDA has the advantage of providing user-generated sub-operators for other stakeholders to add data according to each sector's scope of activities and responsibilities based on the 4A classification to enrich the attraction data in the destination.

Table 1 is the result of a modification of porter's five forces model by adjusting the context of the analysis of regional tourism information systems that emphasize balance power as an implication of the adoption of information systems to optimize the bureaucratic function of the Tourism Office in Morotai Island Regency. [29] shows that competitiveness analysis is needed to measure the system's strength and anticipate matters related to competitive rivalry, supplier power, buyer power, the threat of substitution, and the threat of new entry. In the strategic planning of the tourism information system, [30] shows that any system designed must adjust the tourism business process or tourist destination management system. Therefore, a comprehensive study is needed to be related to competitiveness before and after using the information system to be sustainable. This shows that Porter's five forces model is also related to value chain analysis about efforts to create superior and competitive value from the existence of SIPARDA.

In addition, the classification of Strengths, Weaknesses, Opportunities, and Threats (SWOT) from the SIPARDA design is as follows: Strength, SIPARDA can mobilize the bureaucratic function of the Morotai Island Regency Tourism Office by providing a digital system that stores data attractively through visualization of a website-based information system; Weaknesses, SIPARDA operations require the capacity of Human Resources (HR) who have standards

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and qualifications related to ethics, skills and operational knowledge of applications; Opportunities, SIPARDA opens opportunities for all stakeholders as tourism partners in the Morotai Island Regency to play an active role in inputting and updating data related to the availability of tourism resources in each village or location within the administrative area of the Morotai Island Regency. Thus, the diversity of regional tourism can be well documented through a participatory approach; Threat, socialization, and operational training of SIPARDA to all stakeholders take a long time, making it vulnerable to burnout. To optimize SIPARDA, support from various aspects is needed, both the availability of budgets for the operation of socialization and training programs, the availability of time to participate in the program, and the availability of qualified facilitators in the socialization program.

In the bureaucracy of the Tourism Office of Morotai Island Regency, several supporting applications that can be identified as supporting the overall function of the bureaucracy are as follows: Financial Management Information System; Asset Management Information System of the Tourism Office; Personnel Information System; Employee Attendance Management Information System; Tourism Website; and the Tourism Information Center. This shows the level of employee acceptance of technology, in this case, various supporting information systems that support employee performance. Despite this, the characteristics of the available information systems are still limited to the interests of the Morotai Island District Tourism Office. Meanwhile, when compared to SIPARDA, it can be seen that there is an opportunity for stakeholders to participate in the participatory and voluntary data collection process for mutual progress. If analyzed in-depth, the current IT/IS portfolio that the Morotai Island Regency government has owned, SIPPARDA can also integrate with the web-based application of the Morotai Island Regency figure below.

https://www.pulaumorotaikab.go.id/ Morotai Island Regency Website

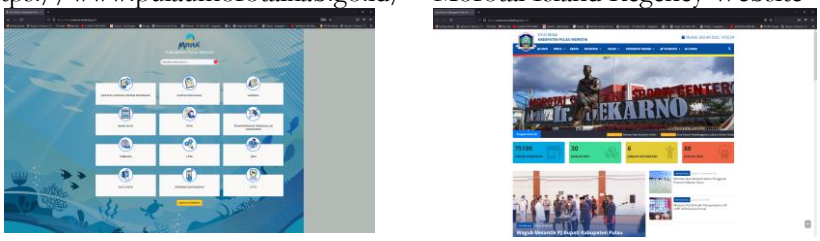

Figure 5. Current IT/IS Portfolio in Morotai Island Regency

Figure 5 is a portfolio of website-based information systems for the local government of Morotai Island Regency, North Maluku Province, Indonesia. The domain is https://www.pulaumorotaikab.go.id/ as an entrance to websites and other supporting applications. This shows that SIPPARDA can be developed and

used as a supporting application for monitoring the performance of the tourism office in collecting data to synchronize annual programs or activities based on each field. In response to this opportunity, SIPPARDA was designed with a flow, as shown in figure 6 below.

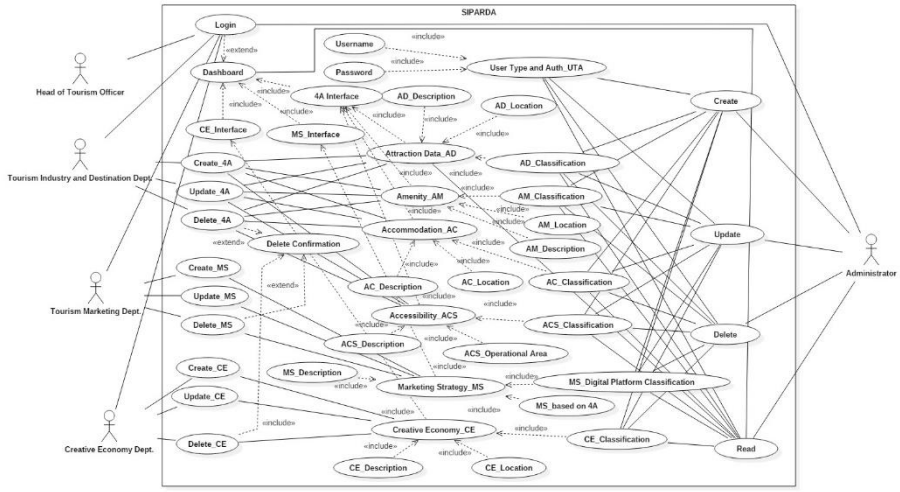

Figure 6. Usecase Diagram of SIPPARDA

Figure 6 is the flow of the SIPPARDA website-based information system that can be integrated as one of the applications of the Morotai Island Regency Government. SIPPARDA is designed to accommodate each field's main tasks and functions in the Tourism Office of the Morotai Island Regency. The Head of The Office easily monitors the data on attractions, amenities, accommodation, and accessibility. It evaluates work programs that have been realized based on the budget, location of activities, and year of implementation. Meanwhile, these data are uploaded by operators in each field, namely the tourism industry and destination department, tourism marketing department, and creative economy department. Meanwhile, the duties of an administrator can be transferred to the IT department of government support to create operator accounts by generating usernames and passwords and adding entities in the database to classify attractions, amenities, accessibility, and accommodations. However, descriptions related to the system and database flow from SIPPARDA need to be comprehensively studied in the study of SIPPARDA analysis and design using the Software Development Life Cycle (SDLC) approach and the Waterfall approach, which shows the stages of overall system design.

Based on the design of this system, it can be known that SIPARDA has the chance to produce a more optimal output than the current application portfolio. [31] points out that the MacFarlan application portfolio can be used to identify opportunities for the benefits of using information systems that can improve

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organizational productivity or performance. On the other hand, [32] also shows that the McFarlan application portfolio analyzes and maps information systems based on strategic, critical operational, high potential, and support categories. Thus, if adjusted to the context of this study, SIPPARDA is classified as strategic, as shown in the following table.

Tabel 2. McFarlan Application Portfolio

Strategic	**High Potential**
Regional Tourism Information System (SIPARDA)	Tourism Office Asset Management Information System
Key Operational	**Support**
Financial Management Information System	• Employment Information System • National Legal Documentation and Information Network • One Data • Bank Data • List of Information System Services • Satisfaction Survey
• Employee Attendance Management Information System • Information and Documentation Management Officer (PPID) • LPSE	

Table 2 shows that SIPARDA can be a strategic information system that can encourage the performance of works in the Tourism Office of the Morotai Island Regency. Meanwhile, matters related to financial administration can be facilitated through the Financial Management Information System application. Meanwhile, the internal staffing management of the Tourism Office can be optimized through the Employment Information System and Employee Attendance Management Information System applications. On the other hand, the management of assets belonging to the Tourism Office can also be appropriately managed through the Tourism Office Asset Management Information System. However, if classified based on strategic, essential operational, critical potential, and support categories, then SIPARDA is classified as a strategic system that is feasible to be developed by the existing conditions of the Tourism Office of Morotai Island Regency.

Based on the results of value chain analysis, porter's five forces model, SWOT, and McFarlan application portfolio, it can be seen that the regional tourism information system known as SIPARDA is a strategic system to encourage the performance of the Tourism Officer and provide opportunities for all stakeholders to participate and play an active role in collecting data related to attractions, accommodation, amenities, and accessibility in the tourism sector. Thus, the system's existence supports the effectiveness and efficiency of regional tourism management in Morotai Island Regency, North Maluku Province, Indonesia.

4. CONCLUSION

This research shows that the regional tourism information system (SIPARDA) is a strategic information system that supports the performance of the Tourism Office of Morotai Island Regency and provides opportunities for all stakeholders to participate and play an active role in collecting and updating information related to attractions, accommodation, amenity, and accessibility. The urgency of SIPARDA to be developed is to consider the existing conditions of Morotai Island tourism, which has reached the consolidation stage in the TALC and the Euphoria stage in the Irritation Index. Furthermore, the development of SIPARDA from the perspective of value chain analysis and the Porter Five Forces model shows opportunities and advantages. Although, the results of the SWOT analysis show that there are challenges in the process of socialization and operational training of applications that take a long time. Thus, it can be seen that the strategic planning of the regional tourism information system using the Ward and Peppard framework can answer the problems of tourism destination management and recommend an information system that is to the needs and availability of tourism resources in Morotai Island Regency, North Maluku Province, Indonesia.

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