Modeling e-Commerce for Watersport Business in Nusa Dua Bali Based on IT-Business Alignment

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Abstract: The research purpose was to develop an e-commerce model for the watersport business in Nusa Dua Bali based on IT-Business alignment. This research was a research and development research. It began with the plan stage by collecting data, then the development stage by IT-Business Alignment analysis based on the Strategic Alignment Model and continued by developing an e-commerce model and system mockup. Finally, the Evaluation stage were conducted by validation through focus group discussion with purpose model and mockup testing by inviting the experts and stakeholders. The result was the proposed e-commerce model for watersport business in Nusa Dua Bali is adopted the B2B2C e-commerce model. The media used are the official website and official social media, then the entities involved are brokers and customers. The business processes were Business to Business (B2B) between watersport businesses and brokers, and Business to Consumers (B2C) between watersport businesses and customers. The system mockup created for the official website which was the main component in the proposed model. The mockup was created by Mockplus software. Based on the evaluation results, it can be concluded that the model and mockup created were stated to be attractive and relevant to the needs.

1 INTRODUCTION

The tourism business is a very promising business and is the main business core for the island of Bali Indonesia. However, the COVID-19 pandemic has greatly affected the continuity of the tourism business, especially in Bali. Many SMEs in the Nusa Dua area of Bali are no longer able to maintain their business. Entrepreneurs who are local residents in the sense that they are not burdened with land rent, are still trying to maintain their business. One of them is a business in the field of water sports.

Currently, the implementation of e-business in Indonesia is growing. Business processes in various business activities have been assisted by e-business such as product design, procurement, production, marketing and distribution activities. Some of the motivations in implementing e-business include: (1) time efficiency, (2) cost efficiency, (3) flexibility in marketing, (4) accuracy, (5) financial planning, and (6) supplier relationship (Saptadi, Sudirman,

Samadhi, & Govindaraju, 2015). Some of the best practices that have implemented e-business in the business world was research (Pallathadka, et al., 2021) applied artificial intelligence to business management, e-commerce and finance. Research (Wang, Hong, Li, & Gao, 2020) described marketing innovations through e-commerce in the face of covid-19. Research (Nikolaos, Panayiotou, & Stavrou, 2021) focused on researching Government to Business (G2B) e-services. Research (Labanauskaitė, Fiore, & Stašys, 2020) used e-marketing as a means of communication in the tourism industry.

E-commerce is part of e-business. Based on (Combe, 2006) and (Chaffey, 2009), e-commerce is the activity of buying and selling, marketing and servicing products and services through computer networks. In fact, E-commerce is more about buying and selling using the internet. E-commerce should be considered as all transactions mediated electronically between an organization and the third parties with which it relates. With this definition, non-financial

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transactions such as customer requests for more information will also be considered as part of e-commerce (Combe, 2006), (Chaffey, 2009). Even the use of artificial intelligence (AI) and machine learning in e-commerce applications has been discussed in (Nandhini & Marseline KS, 2020). (Soni, Sharma, Singh, & Kapoor, 2020), (Di Vaio, Palladino, Hassan, & Escobar, 2020), (Di Vaio, Boccia, Landriani, & Palladino, 2020) (Kumar & Trakru, 2020), and (Soni, Sharma, Singh, & Kapoor, 2019).

The COVID-19 pandemic has changed the economy a lot. Research (Wang, Hong, Li, & Gao, 2020) stated that weak consumer demand is one of the biggest challenges in the crisis due to the COVID-19 pandemic. Seeing the phenomena and situation that developed after the COVID-19 pandemic, it is important to develop a new e-commerce model for the water sports business in Nusa Dua Bali. One of the key success factors of e-business is the effective use of IT to improve business performance in all phases and ensure sustainable competitiveness. Therefore, organizations support to use IT services effectively which leads directly to the optimization of performance (Idrees & Ibrahim, 2015). In order to produce the right e-commerce model for the water sport business in Nusa Dua Bali, it is necessary to build IT alignment with the business.

One method that can be used to achieve IT and business alignment (IT-Business Alignment) is the Strategic Alignment Model (SAM). The first SAM was introduced by Henderson and Venkatraman in 1993 (Kudo, Iizuka, & Miyamoto, 2012). SAM consists of four quadrants consisting of two internal domains and two external domains, namely the business strategy quadrant, the IT strategy quadrant, the company infrastructure quadrant and its various processes, as well as the IT infrastructure quadrant and its various processes. SAM can be used as a basis for assessing the alignment of IT strategy with business strategy (Sihotang, 2017). Previous research that uses SAM is research (Primasari, 2022) which formulates strategies to achieve IT-Business alignment in the gaming industry in Indonesia. Research (Sihotang, 2017) uses SAM in manufacturing companies.

The basic idea of this research (can be seen in Figure 1) is to develop an e-commerce model for the water sport business in Nusa Dua Bali based on IT-Business alignment. The created model is completed with the mock-up which makes the model closer to the original product. There was no previous research that has developed an e-commerce model for the water sport business in Nusa Dua Bali based on IT-Business alignment after the COVID-19 pandemic impact.
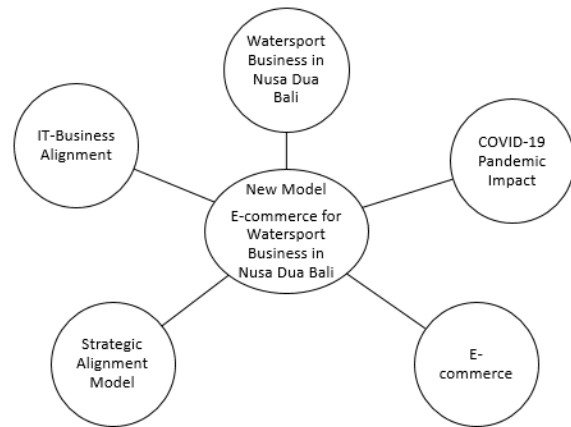

Figure 1: State of The Art of The Research.

2 RESEARCH METHODOLOGY

This research was conducted by a research and development research approach by adopting the CBI (Computer Based Instruction) model which consists of 3 stages, namely Plan, Development and Evaluation. The activity stage began with the plan stage by collecting data. The development stage was an IT-Business Alignment analysis based on the Strategic Alignment Model (can be seen in Figure 2) and a SWOT description from the results of the IT-Business Alignment analysis. The development stage is then continued by developing an e-commerce model equipped with a business model, use case diagram, and system mockup. Finally, the Evaluation stage were conducted by model and mockup validation activities through focus group discussions with purpose model testing by inviting the experts and stakeholders.
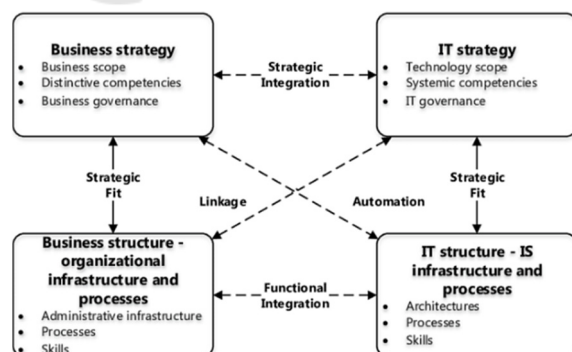

Figure 2: Strategic Alignment Model (Kudo, Iizuka, & Miyamoto, 2012).

Data collection techniques used observation, online searches as literature studies, in-depth

interviews and focus group discussions. Observations were made on the watersport business in Nusa Dua Bali. Literature study through online search with e-commerce topics, strategic alignment model, SWOT analysis, system mockup. In-depth interview with the main resource person were a watersport entrepreneur, namely HOTDOG Waterport Nusa Dua. The focus group discussion invited experts, research teams and stakeholders (watersport entrepreneurs).

3 RESULTS AND DISCUSSIONS

3.1 The Proposed e-Commerce Model

Based on the IT-Business alignment, the proposed e-commerce model for watersport business in Nusa Dua Bali is adopted the B2B2C e-commerce model. The B2B2C watersport model consists of 2 components and 2 business processes. The B2B2C watersport model is illustrated in Figure 3.

The model components consisted of the media and the entities involved. The media used are the official website and official social media, then the entities involved are brokers and customers. The watersport business in Nusa Dua Bali maintained good relations with brokers. There are 3 types of brokers in watersport business in Nusa Dua Bali, namely brokers who was marketing products through their own website, brokers who was marketing products through social media, and conventional brokers who was word-by-mouth looking for customers. Meanwhile, the customers in this watersport business consist of personal type customers and corporate customers.

Research (Labanauskaitė, Fiore, & Stašys, 2020) stated that websites, social networks, emails, reservation pages are the recommended tools for high-performing businesses in the tourism industry. Mobile applications were not very reliable and did not fully meet the needs of users, but their interest is growing. The media involved in the B2B2C watersport model in Figure 4 adopt the results of research (Labanauskaitė, Fiore, & Stašys, 2020) and (Hansopaheluwakan, et al., 2020) and also based on research (Dwivedi, Ismagilova, Huges, & Kefi, Aug 2021) which stated that the selection of an e-commerce platform should depends on the target consumer and marketing strategy.

The business processes in the proposed model were Business to Business (B2B) between watersport businesses and brokers, and Business to Consumers (B2C) between watersport businesses and customers. Both of these business processes are provided on the

official media website. The official social media is associated with the B2C section of the official website.

Research (David, 2021) stated that the use of e-ordering has a positive and significant effect on market share, sales volume and the number of tourist arrivals. As a result, the use of e-ordering was a major factor determining performance in tourism companies. In addition, the use of e-advertisement had a significant influence on market share and the number of tourist visits. Moreover, e-payments affected the number of tourist visits. The number of tourist visits to the company was significantly influenced by e-advertisement, e-ordering and e-payment as the use of e-commerce. This confirmed that the increase in the use of e-commerce results in a greater influence on the number of tourist visits in the tourism sector. Therefore, increasing the level of use of e-commerce improved the performance of SMEs in the tourism sector. This is supported by research (Betts, 2020) which found that most (85%) e-tour operators think that there is a positive impact of e-commerce technology on e-tour operations.

The B2C section of the website, hereinafter referred to as the frontend website, consisted of the following features:

1. Home
    Equipped with weather information at watersport locations such as research (Daries, Cristobal-Fransi, & Ferrer-Rosell, 2020).
2. Facilities
    Complete facilities offered include photo and video creation services.
3. Products & Services by displaying the public rate.
4. How to order
    Based on research (Fattah & Arman, 2014), organizational culture is important, so on this page the website displays the order feature via the WhatsApp application with the reason that it can still be customized or negotiated prices.
5. Reservations
    Likewise, the reservation page will display an option in the form of "leave your contact (WA/Email) then our marketing will contact you"
6. Payment type information
7. E-tour
    Showing the experience of playing through video media that will increase interest as stated in the study (Betts, 2020).
8. Testimonials
    This page displays posts about the experiences of customers who have played. The testimonial

page is an interpretation of the e-WOM. Several previous studies that discussed the importance of e-WOM were research (Reyes-Menendez, Saura, & Martinez-Navalon, 2019), (Sa'ait, Kanyan, & Nazrin, 2016), (Bataineh, 2015), (Zhao, Wang, Tang, & Zhang, 2020), and (Yang, Cheng, & Tong, 2015).

Testimonials have several indicators, namely: (1) Satisfaction, (2) Quality, (3) Trust, (4) Comments of the watersport team help, and (5) Comments of the watersport team understanding.

The indicator on testimonials is very important because it is based on research (Sa'ait, Kanyan, & Nazrin, 2016) that it was important to focus on the accuracy of e-WOM. Because the more accurate the message, the more it affects purchase intention. Testimonials could increase the confidence of future customers about the products or services provided. This is also in line with research (Bataineh, 2015) and (Zhao, Wang, Tang, & Zhang, 2020) regarding the effect of e-WOM quality. Research (Buhalis, López, & Martinez-Gonzalez, 2020), (Kitsios, Mitsopoulou, Moustaka, & Kamariotou, 2022), and (Meilatinova, 2021) stated that the impact of satisfaction and trust variables was greater than other variables in customer repurchase and word-of-mouth intentions.

The B2B section of the website, hereinafter referred to as the backend website, consisted of the following features:

1. Master data broker
   Anyone who comes with a customer is treated as a broker and gets the same right to get a commission from the total price of the watersport services that was chosen by the customer. Each broker's data is recorded and managed.
2. Brokerage transactions
   It record date, services type, number of customers, total price, commission amount.
3. Broadcast message
   A feature for sending broadcast information to all brokers
4. Generate Report

3.2 Mockup System

This research made a mockup system for the official website which is the main component in the proposed model. The mockup is consisted of the backend website and the frontend website. The mockup was created by Mockplus software. Based on the evaluation results, the model and mockup created were stated to be attractive and relevant to the needs.

There were 31 pages have created for representing the backend website mockup. Some of them is illustrated in Figure 3 and Figure 4. Figure 5 is illustrated one of the frontend mockup from total 10 pages.
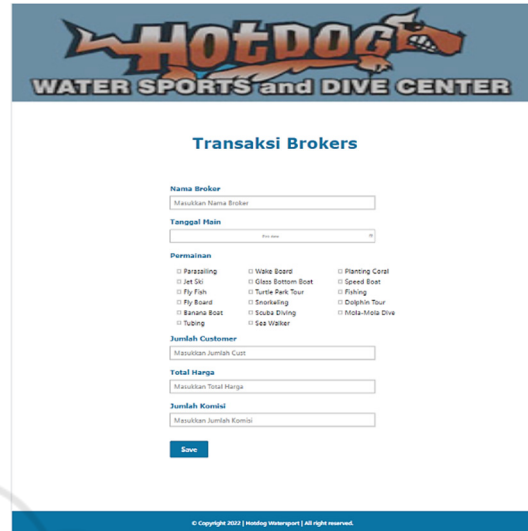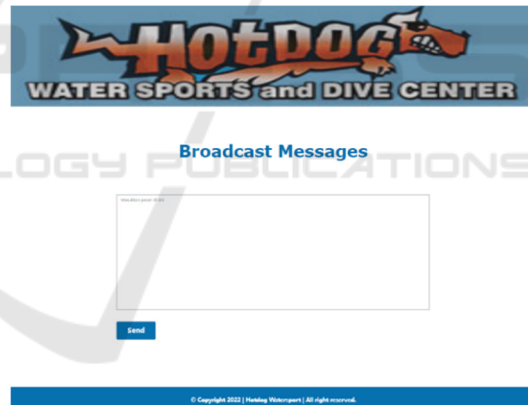

Figure 3: Add New Broker Transaction Mockup.
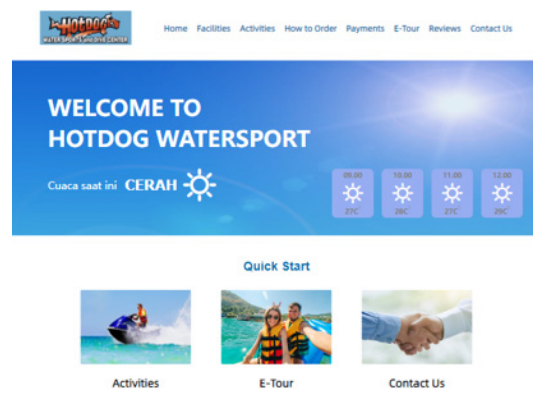

Figure 4: Broadcast Message Mockup.

Figure 5: Home Mockup.

4 CONCLUSIONS

Based on the IT-Business alignment, the proposed e-commerce model for watersport business in Nusa Dua Bali is adopted the B2B2C e-commerce model. The B2B2C watersport model consists of 2 components and 2 business processes. The model components consisted of the media and the entities involved. The media used are the official website and official social media, then the entities involved are brokers and customers. The business processes in the proposed model were Business to Business (B2B) between watersport businesses and brokers, and Business to Consumers (B2C) between watersport businesses and customers. Both of these business processes are provided on the official media website. The official social media is associated with the B2C section of the official website. This research made a system mockup for the official website which is the main component in the proposed model. The mockup is consisted of the backend website and the frontend website. The mockup was created by Mockplus software. Based on the evaluation results, the model and mockup created were stated to be attractive and relevant to the needs.

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