







# “Enhancement of Indonesia’s blue economy sector through innovation and competitive advantage based on Resource-Based View theory”

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# ENHANCEMENT OF INDONESIA'S BLUE ECONOMY SECTOR THROUGH INNOVATION AND COMPETITIVE ADVANTAGE BASED ON RESOURCE-BASED VIEW THEORY

## Abstract

Indonesia's blue economy holds immense potential due to the marine ecosystem and maritime area, encompassing the marine fisheries sector, marine tourism, and fisheries influencing the market. Despite this significant potential, these resources have not been optimally utilized to boost economic growth. Therefore, this study aims to investigate the competitive advantage of the Blue Economy sector by enhancing the outcomes of the tourism, processing, and sales of fisheries in Indonesia through the Resource-Based View (RBV) theory. The Resource-Based View theory explains the formulation and creation of competitive advantages by utilizing tangible and intangible resources such as innovation, strategy, capability, and culture. This study employs a quantitative method through an online survey with a total of 319 respondents working in the Blue Economy sector, including fisheries, marine product sellers, and marine tourism. The analytical methodology uses Structural Equation Modeling (SEM) with SMART PLS to assess the determination of competitive advantage. The findings of this study show that capabilities, operational capabilities, response capabilities, technological capabilities, innovation culture, innovation strategy, and strategic alignment significantly influence competitive advantage. Moreover, the competitive advantage in the blue economy sector is most influenced by innovation strategy with a beta of 0.375. This suggests that enhancing innovation strategies can positively impact Indonesia's fisheries industry, as evidenced by fisheries tourism being the largest tourism sector in Indonesia, competing with international tourism. Additionally, Indonesia's fisheries sector is a major contributor to exports.

## Keywords

blue economy, competitive advantage, resource-based view, capability, innovation, strategic alignment, technology, culture

## JEL Classification

L10, O36, O44, P28

## INTRODUCTION

The Blue Economy has garnered global attention due to its substantial role in sustaining and enriching the global economy. This concept underscores the inherent tension between promoting growth and development while safeguarding marine resources. The Blue Economy sectors outlined in the Sustainable Development Goals (SDGs) encompass life below water, responsible consumption and production, decent work and economic growth, industry, innovation, and infrastructure, as well as sustainable cities and communities. The focus of this study, the blue economy industry, encompasses capture fisheries, aquaculture, fishery product processing industry, and marine tourism. With Indonesia's vast maritime territory spanning 3,257,357 square kilometers, the country prioritizes the blue economy concept, positioning its sector for a promising future (CNN Indonesia, 2023). However, in

2023, the Minister of Maritime Affairs and Fisheries of Indonesia reported that the fisheries sector only contributed 2.54% to the Gross Domestic Product (GDP) (Rizky, 2023). With enhanced governance in the fisheries sector, Indonesia's potential utilization of marine resources to drive the blue economy is vast, despite the management challenges.

The Resource-Based View (RBV) theory emphasizes the importance of valuable resources and unique capabilities, both tangible and intangible, as sources of competitive advantage for an organization. In the context of the blue economy sector, valuable assets like natural resources, oceanic biodiversity, technological advancements, infrastructure, innovation, business strategy, and human expertise in marine resource management can form the basis for fostering sustainable innovation and gaining competitive edges (Bappenas, n.d.). The results are obtained using the VRIO indicators, which consist of Valuable (V), Rare (R), Inimitable (I), and Organized (O) (Jurevicius, 2023). Hence, the RBV theory has the potential to help organizations manage their resources through superior strategies and innovation, especially in the context of Indonesia's Blue Economy sector, which is rich in fisheries and marine resources (Pedroza-Gutiérrez, 2019).

This underscores the RBV theory's effectiveness in identifying factors influencing the competitive advantage of the fisheries sector and marine tourism. Therefore, to increase the competitive advantage and visibility of Indonesia's Blue Economy sector, as well as to optimize the utilization of Indonesia's marine resources, this study aims to identify factors that constitute the competitive advantage of blue economy sectors using the RBV approach which consists of capabilities, innovation culture, innovation strategy, operation capabilities, response capabilities, strategic alignment, and technological capabilities, explicitly examining the value derived from the resources owned by the Blue Economy to formulate a competitive advantage.

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## 1. LITERATURE REVIEW AND HYPOTHESES

The blue economy endeavors to ensure the sustainability of coastal and marine resources and environments closely linked to the economic development of marine industries, particularly fishermen, fish processors, aquaculturists, marine product exporters, and even eco-tourism that potentially boost national economies (Sunarlan & Kusnadi, 2018). Furthermore, Pascoe et al., explain that the fisheries and marine tourism sectors are two potential areas for integration, especially given the significant contribution of the fishing industry to regional economies and marine tourism supported by effective management (Pascoe et al., 2023). It is also argued by Mahmud et al. (2021) that the fisheries sector is pivotal in providing fish resources for domestic consumption in nations, with fish capture remaining vital for meeting nutritional needs, especially for impoverished communities. Moreover, the blue economy emerges as a sustainable industry sector that contributes to global economic growth (Choudhary et al., 2021).

Following the fisheries sector, marine tourism emerges as another crucial element of the blue economy. As per Tegar and Gurning (2018), marine tourism can be categorized into two groups: marine tourism and coastal tourism, interconnected due to their dependence on the sea and maritime environment. Marine tourism takes place at sea, involving cruise ships and sailing, while coastal tourism focuses on activities along the coastline such as recreation, dining, etc.

Wen Hai et al. (2019) discuss the overview and challenges of the blue economy are about finding that ecological, economic, and social benefits can be derived from marine ecosystems (Wenhai et al., 2019). Additional research also explored the development of the Blue Economy, emphasizing the transition from a low rating to a sustainable industry. This transition involves investing in maritime aspects related to tourism and fisheries with promising prospects (Choudhary et al., 2021). Hence, it can be argued that improving organizational performance requires optimizing both intangible and tangible resources (Jurevicius, 2023). It is evident that Indonesia's reliance solely on

marine ecological conditions has not led to substantial growth in the blue economy. Therefore, it is crucial to employ the RBV approach to analyze intangible resources.

An in-depth examination of fishery processing by Gutierrez uncovered that the supply chain aspect plays a crucial role in enhancing fisheries development efforts (Pedroza-Gutiérrez, 2019). Appiah's research highlighted that boosting the blue economy entails increased investment to enhance organizational resources for managing fishery products, including implementing innovative processing methods and developing high-quality new products (Appiah et al., 2023). The application of the RBV approach across various sectors, such as manufacturing, processing, trade, and both large-scale enterprises and SMEs, has shown that operational management impacts a company's competitive advantage (Chahal et al., 2020). Studies have also explored IT-enabled sharing capabilities, supply chain flexibility, and competitive performance in the manufacturing sector (Jin et al., 2014). Competitive advantage analysis has focused on strategic alignment and market responsiveness in manufacturing (Sardana et al., 2016).

In strategic management, the Resource-Based View (RBV) theory has played a significant role. This theory provides a different way to understand the competitive advantage of a business through consideration of the company's internal resources and capabilities (Zubac et al., 2010). Due to its relevance across various industries and situations, the RBV framework has successfully transcended conventional economic theories that focus on active movements in the market. Following an understanding of the RBV theory's impact on organizational performance, a substantial body of RBV literature has emerged, often addressing topics related to dynamic capabilities and resource diversity in seeking and maintaining organizational competitiveness (Collins, 2021). According to the RBV theory by Barney (1991), resources include all elements under a company's control, such as assets, capabilities, procedures, attributes, information, and knowledge. These elements empower the said firm to formulate and execute a range of strategies, ultimately enhancing the company's efficiency and effectiveness.

Several studies employing the RBV methodology have participated in fabricating new strategies and perspectives for countries or specific sectors. Tarihoran et al. (2023) demonstrated that the RBV theory could enhance organizations' ability to discern the necessary resources for sustainable development in aquaculture, fisheries, and geotourism. Further research investigated the relationship between IT-enabled sharing capabilities, supply chain flexibility, and competitive performance in manufacturing sector companies (Jin et al., 2014). This corresponds with the RBV principle, which stresses that competitive advantage can be achieved through the cultivation and utilization of scarce, valuable, and hard-to-replicate resources. Jin et al. also underscore that organizations should not solely concentrate on resource possession but should also prioritize the establishment of capacities to nurture specific company capabilities and partnerships (Jin et al., 2014). Sardana et al. (2016) explored that firm performance in the manufacturing industry hinges on strategic alignment and responsiveness to the market. The conclusion emphasizes that organizations need to strategically manage resources to achieve corporate goals and maintain a competitive edge. Thus, the RBV approach is deemed suitable for developing diverse innovation strategies to optimize the blue economy sector's role in the global economy.

Competitive advantage is becoming a pivotal factor in helping businesses outshine their competitors over an extended period, influencing consumer choices and often resulting in increased profits (Ali & Anwar, 2021). This makes capital more accessible (and cost-effective) for companies capable of maintaining a strong competitive advantage compared to their peers. Moreover, Jin et al. (2014) defined competitive performance as an organization's ability to gain an advantage over its competitors, which reflects the outcome of competitive advantage. According to their research, performance indicators such as superior product quality, consistent delivery reliability, and swift product launches in the market are seen as manifestations that demonstrate a company's ability to establish a competitive edge.

While competitive advantage becomes the driving force behind a company's ability to outperform its competitors and achieve long-term success, RBV

theory emphasizes that an organization's competitive advantage is rooted in its unique resources and capabilities (Madhani, 2009). Several studies have already succeeded in indicating a significant correlation between Competitive Advantage, RBV theory, and the Blue Economy sector, where these three topics underscore the urgency of the process of identifying and utilizing resources through organizational capabilities in both domestic and global markets (Schutter et al., 2021). The blue economy sector potentially leverages its unique characteristics, such as sustainable resource management, innovation, and collaboration, to develop a competitive advantage (Martínez-Vázquez et al., 2021).

Strong capabilities serve as the cornerstone for achieving a competitive advantage in a competitive market context. Capabilities or skills are further defined as an organization's high-level understanding of a particular subject or expertise acquired through research, practical experience, or significant involvement in one specific field of study (Zhang et al., 2023). Beyond mere competence, capabilities encompass the application or manifestation of these competencies through actions or endeavors to achieve specific objectives (Robeyns et al., 2023).

The competitive edge of a firm is frequently established through its dynamic capabilities. Sardana et al. (2016) propose that evaluating dynamic capabilities can involve assessing the uniqueness of equipment, employees' proficiency in technology, personal technological knowledge, and advanced production process capabilities. But Chakraborty et al. (2023) argue that this viewpoint on dynamic capabilities does not remain static but introduces evolutionary aspects to the resource-based perspective. Additionally, Cepeda and Vera (2007) illustrate the connection between organizational abilities and dynamic capabilities, indicating that the latter facilitates continuous optimization of resource utilization. This emphasizes that abundant resources and potential alone are only possible with the capability to utilize them effectively. In conclusion, organizations in the blue economy sector must identify, leverage, and adapt their capabilities to succeed in achieving a competitive advantage over other sectors.

An innovation culture fosters a dynamic environment for continuous improvement, enabling organizations to maintain a competitive edge

in today's rapidly changing market. Serving as a strategy to encourage creative thinking, innovation culture encompasses organizational behaviors and creativity, enhancing the organization's capacity to adapt to a dynamic external environment (Tian et al., 2018). Ojo and Volkova (2023) enhance this definition by summarizing that innovation culture is central to the development of new products and services, allowing companies to achieve a competitive advantage through the cultivation of essential innovation competencies. Moreover, to nurture a robust innovation culture, collaboration, a dedication to continuous learning, and a mutual understanding of the significance of innovation for organizational sustainability are essential. Thus, a strong correlation is evident between innovation culture and organizational success, emphasizing that embracing and promoting innovation are not merely initiatives but strategic imperatives (Naveed et al., 2022). Rather than that, Al-Essa et al. (2022) concluded that an innovation culture serves as a new source in fostering and sustaining competitive advantage, as identified through the Innovation Culture Theory (ICT) approach. Therefore, it is crucial to incorporate the principles of innovation culture into the Blue Economy concept, representing a pivotal step in effectively harnessing marine resources to elevate a nation's economic prominence.

Innovation strategy is often associated with a comprehensive plan devised by a company to allocate resources to generate new ideas capable of creating added value for consumers, employees, and all relevant stakeholders. Thus, an innovation strategy is the cornerstone for an organization to endure intense competition and even capture a broader market (Santa et al., 2023). Consequently, innovation strategy is the foundation that enables an organization to withstand fierce competition and expand its market reach by offering organizations perspectives and orientations toward the future landscape, where novel models can be created to enhance existing elements, such as products, processes, and more (Sá et al., 2023).

The initial condition is observed in Opportunity Discovery and Opportunity Creation which both conditions positively correlate with the evolution of organizational innovation strategies, underscoring the essential role of opportunities in for-

ulating innovation strategies for organizations, including those in the Blue Economy sector (Yin & Zhou, 2021). Through critical analysis and synthesis, Oksanych (2021) asserts that companies emphasizing pro-innovative development typically emerge as market leaders. Nonetheless, there exists a condition where innovation success relies solely on a company or organization with suitable innovative potential and the ability to efficiently employ it (Razladova & Nyoko, 2022). Henceforth, by combining the principles of the blue economy into the innovation strategy framework, innovation strategy could create a competitive advantage and improve business supremacy among its competitors.

In organizational studies, operational capability is intended to demonstrate an organization's expertise in conducting business activities with efficient and optimal processes. This is also identified as an organization's skills and abilities to deliver products effectively to target stakeholders, not limited to consumers (Sansone et al., 2017). The primary indication is that each organization can indirectly showcase performance and internal strength through operational capabilities (Song & Liao, 2019). Therefore, an organization needs to identify, evaluate, and enhance operational capabilities through continuous improvement and the realization of innovative strategies.

Organizations must integrate their operational capabilities with strategic and innovative planning to create operational excellence and achieve a holistic competitive advantage. Operational capabilities involve a combination of organizational knowledge, skills, tools, processes, and behaviors; they can provide benefits and impetus for organizations to reach their goals (Acorn, 2023). When correlated with the concept of the Blue Economy, integrating operational capabilities within the organization becomes crucial for the sustainable management of marine resources and the development of an efficient value chain. Companies with high operational capability contribute positively to efficiency and customer performance, thereby enhancing the company's overall competitiveness ranking (Silvestri et al., 2023). In conclusion, the key objective of achieving sustainable competitive advantage can be realized through optimizing operational capabilities within the Blue Economic Sector's organization.

Response Capability is frequently linked to an organization's aptitude for addressing ongoing alterations in the external environment. In this context, the organization's capabilities are channeled toward overcoming challenges and swiftly capitalizing on emerging opportunities (Rehman et al., 2019). According to research conducted in China, response capability is an organization's ability to mobilize both tangible and intangible resources when engaged in activities aimed to enhance its overall performance (Wang et al., 2022). The variation in these two definitions provides a deeper understanding of response capability, that organizations need to address internal and external situations that may arise in the future while also proactively predicting and managing existing potentials (Drago et al., 2022).

Response Capability goes beyond enhancing a company's competitive advantage; it also serves as an asset in addressing organizational disruptions or crises. Organizations with high response capability can efficiently implement recovery strategies, minimize adverse impacts, and maintain operational continuity (Shafiei Sabet et al., 2019). Given the numerous benefits of having response capability, it is crucial for organizations to continuously develop and enhance this skill to adapt to rapid environmental changes. Similarly, the Blue Economy sector encounters challenges from technological disruptions, national economic conditions, and other contributing factors. Onamusi established a significant link between response capability and firms' competitiveness enhancement (Onamusi, 2020). Consequently, as organizations within the Blue Economy sector improve their response capability, their competitiveness will also increase. Therefore, the ability to respond effectively assists relevant organizations in maximizing the utilization of maritime resources, particularly within Indonesia's vast maritime territories, ultimately strengthening the sector's competitive edge.

Strategic alignment often refers to the process of harmonizing the various components of an organization. This includes its goals, processes, resources, and technologies, working in cohesion toward achieving overall strategic objectives and competitive advantage (Baker et al., 2011). Since strategic alignment is pivotal in shaping how organizations leverage technology to gain competi-

tive advantage, it becomes highly possible to remain competitive if the organization can align itself with its information technology strategies. Venkatraman et al. (1993) have identified a close correlation, emphasizing the importance for organizations to align their business strategies with business activities.

Strategic alignment contributes to firms' external and internal fit (Sun & Hong, 2002). Recent literature indicates that organizations face several obstacles in building and maintaining Strategic Alignment, especially in global shifts and disruptive digital transformations (Smith & Thomas, 2023). Through his study, Niyas and Arun (2020) assert that digital disruptions significantly impact conventional Strategic Alignment models. Comprehending strategic alignment is increasingly vital amid digital transformations and global disruptions (Johnson & Lederer, 2010). This literature addresses challenges and provides valuable insights into flexible strategies that bolster an organization's adaptability and resilience, fostering a sustained competitive advantage, especially in the context of the Blue Economy sector.

Technology capability is a fundamental aspect of an organization's competitive position. It encompasses but is not limited to patented technologies, hard-to-acquire expertise, and the accumulation of institutional education (Wang et al., 2023). The technological capabilities possessed by the organization enable the transformation of inputs into outputs with a foundation in the knowledge-based view of strategy (Tello-Gamarra & Fitz-Oliveira, 2021). Al-Mamary et al. (2022) have already proved that the ongoing evolution leads to the rapid obsolescence of technology, necessitating organizations to consistently improve their technological capabilities to stay relevant in external circumstances. Despite the notable risks, considerable advantages exist, mainly when an organization develops technological capabilities that are challenging for competitors to replicate, thereby becoming a crucial factor in the organization's competitive edge (Vitorino Filho & Moorii, 2018).

The significance of technology capability has escalated, becoming a fundamental asset for contemporary organizations. In this context, integrating technology into the operations of organizations in

the Blue Economy sector requires collaboration and integration, as technology capability can only be beneficial when organizations possess IT relationship resources, IT infrastructure, IT human resources, and IT business experience (Sekkel & Bakan, 2017). Nevertheless, the invaluable role of technology capability in maintaining competitiveness and resilience in a specific industry or sector is undeniable (Feng et al., 2020; Tang et al., 2020). In summary, technology capability is crucial for fostering innovation, competitiveness, and resilience, highlighting the importance of collaboration and integration, particularly in sectors like the Blue Economy.

This study aims to identify competitive advantages of blue economy sectors including fishermen, fish product exporters, marine product processors, marine tourism operators, fish farmers, and others through the RBV theory, which encompasses innovation, capabilities, and strategic alignment.

The hypotheses of the study are as follows:

- H1: *Capability positively influences the improvement of competitive advantage in the Blue Economic sector.*
- H2: *Innovation culture positively influences the improvement of competitive advantage in the Blue Economic sector.*
- H3: *Innovation strategy positively influences the improvement of competitive advantage in the Blue Economic sector.*
- H4: *Operational capability positively influences the improvement of competitive advantage in the Blue Economic sector.*
- H5: *Response capability positively influences the improvement of competitive advantage in the Blue Economic sector.*
- H6: *Strategic alignment positively influences the improvement of competitive advantage in the Blue Economic sector.*
- H7: *Technological capability positively influences the improvement of competitive advantage in the Blue Economic sector.*

## 2. METHOD

This study uses quantitative methods with survey methods in data collection, both online and offline. The offline method is held by directly sending the questionnaire to respondents, while the online survey is held by using several social media such as WhatsApp, Instagram, and email. This study also uses a systematic purposive sampling procedure to obtain samples from MSMEs with business fields in the blue economy, such as fishermen, fish product exporters, marine product processing, tour and travel in the marine tourism sector, fish farmers, and others. The total number of respondents is 340, and 319 respondents are valid; several respondents were deleted due to data outliers and duplicating respondents. In the data collection process, questions and statements are presented to respondents who are engaged in businesses within the blue ocean economy, covering five analyzed characteristics.

**Table 1.** Profile of respondents

| Profile          | Characteristic                  | Frequency |
|------------------|---------------------------------|-----------|
| Gender           | Male                            | 179       |
|                  | Female                          | 140       |
| Age              | 19-29 years                     | 29        |
|                  | 30-40 years                     | 79        |
|                  | 40-50 years                     | 105       |
|                  | > 50 years                      | 106       |
| Business age     | < 1 year                        | 30        |
|                  | > 10 years                      | 113       |
|                  | 1-5 years                       | 112       |
| Revenue          | 6-10 years                      | 64        |
|                  | < 300 million                   | 133       |
|                  | < 300 million                   | 127       |
|                  | 2.5 billion-50 billion          | 9         |
| Type of business | 300 million-2,5 billion         | 50        |
|                  | Fish exporter                   | 6         |
|                  | Marine product seller           | 70        |
|                  | Tour & travel of marine tourism | 11        |
|                  | Fisherman                       | 147       |
|                  | Aquaculture                     | 81        |
|                  | Others                          | 4         |

This study analyzes seven variables, specifically capabilities, strategic alignment, innovation culture, innovation strategy, operation capability, response capability, and competitive advantage. The survey used measurement indicators from previous research. Strategic alignment is adapted from Sardana (2016) using 7 items. Innovation culture and innovation strategy measurement is adapted

from Terziovski (2010) using 6 items and 7 items. Capability and operation capability measurement is adapted from Sardana (2016) using 4 items and 4 items. Response capability measurement is adapted from Jin et al. (2014) using 7 items. Competitive advantage measurement is adapted from Jin et al. (2014) using 3 items.

The present study uses Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the influence between variables. PLS-SEM can perform regression and confirmatory analysis using two stages, namely, the outer model and the inner model. The inner model is used to evaluate the measurement quality of the indicators used to represent latent constructs and test the validity and reliability of the instrument. The outer model is used to assess the model and the relationship between variables to test the hypothesis (Jr et al., 2021). In measurement, variables (e.g., capability, innovation, strategy) are analyzed. An outer model assesses quality, relationships, and tests hypotheses.

## 3. RESULTS

This study's measurement model analysis (outer model) was conducted using validity and reliability tests. The validity test consists of convergent validity and discriminant validity. Meanwhile, the reliability test is expressed by calculating composite reliability and Cronbach's Alpha values. The limit for values of composite reliability and Cronbach's alpha values between 0.60 to 0.70 is acceptable. An indicator can be considered to meet convergent validity and have a high level of validity if the outer loadings show values >0.70, while the Average Variance Extracted (AVE) value is >0.50 (Zwicker et al., 2023).

Table 3 shows that all loadings have values greater than 0.70, and the Average Variance Extracted (AVE) yields values above 0.50. Therefore, by achieving these values, a correlation between indicators and variables in a construct can be deemed valid based on the criteria of convergent validity. Reliability tests are conducted on the validated questionnaire items. A variable can be considered reliable if the responses to the questions are consistently consistent. Based on Table 3, the reliability test examines composite reliability values. All variables in Table 3 yield values above 0.70, indi-



**Table 2.** Reliability analysis of questionnaire items

| Construct                | Items | Loading | Composite Reliability | Average Variance Extracted (AVE) | Cronbach's Alpha |
|--------------------------|-------|---------|-----------------------|----------------------------------|------------------|
| Capability               | C1    | 0.737   | 0.873                 | 0.633                            | 0.807            |
|                          | C2    | 0.843   |                       |                                  |                  |
|                          | C3    | 0.808   |                       |                                  |                  |
|                          | C4    | 0.791   |                       |                                  |                  |
| Competitive Advantage    | CA1   | 0.752   | 0.871                 | 0.693                            | 0.778            |
|                          | CA2   | 0.895   |                       |                                  |                  |
|                          | CA3   | 0.845   |                       |                                  |                  |
| Innovation Culture       | IC1   | 0.708   | 0.894                 | 0.585                            | 0.857            |
|                          | IC2   | 0.758   |                       |                                  |                  |
|                          | IC3   | 0.768   |                       |                                  |                  |
|                          | IC4   | 0.805   |                       |                                  |                  |
|                          | IC5   | 0.827   |                       |                                  |                  |
|                          | IC6   | 0.715   |                       |                                  |                  |
| Innovation Strategy      | IS1   | 0.720   | 0.887                 | 0.567                            | 0.847            |
|                          | IS2   | 0.733   |                       |                                  |                  |
|                          | IS4   | 0.711   |                       |                                  |                  |
|                          | IS5   | 0.809   |                       |                                  |                  |
|                          | IS6   | 0.787   |                       |                                  |                  |
|                          | IS7   | 0.753   |                       |                                  |                  |
| Operation Capability     | OC1   | 0.720   | 0.873                 | 0.633                            | 0.809            |
|                          | OC2   | 0.848   |                       |                                  |                  |
|                          | OC3   | 0.869   |                       |                                  |                  |
|                          | OC4   | 0.734   |                       |                                  |                  |
| Response Capability      | RC1   | 0.893   | 0.899                 | 0.817                            | 0.777            |
|                          | RC2   | 0.915   |                       |                                  |                  |
| Strategic Alignment      | SA1   | 0.709   | 0.897                 | 0.555                            | 0.867            |
|                          | SA2   | 0.751   |                       |                                  |                  |
|                          | SA3   | 0.774   |                       |                                  |                  |
|                          | SA4   | 0.798   |                       |                                  |                  |
|                          | SA5   | 0.735   |                       |                                  |                  |
|                          | SA6   | 0.741   |                       |                                  |                  |
|                          | SA7   | 0.700   |                       |                                  |                  |
| Technological Capability | TC1   | 0.720   | 0.901                 | 0.604                            | 0.868            |
|                          | TC2   | 0.845   |                       |                                  |                  |
|                          | TC3   | 0.769   |                       |                                  |                  |
|                          | TC4   | 0.707   |                       |                                  |                  |
|                          | TC5   | 0.814   |                       |                                  |                  |
|                          | TC6   | 0.798   |                       |                                  |                  |

cating that the variables are reliable or meet the requirements.

**Table 3.** Model fit

| Criteria   | Saturated Model | Estimated Model |
|------------|-----------------|-----------------|
| SRMR       | 0.068           | 0.068           |
| d_ ULS     | 3.409           | 3.409           |
| d_ G       | 1.046           | 1.046           |
| Chi-Square | 1879.616        | 1879.616        |
| NFI        | 0.740           | 0.740           |

Smart-PLS is used to validate the structural model. Several indicators are used to measure the goodness of fit, such as Standardized Root Mean Square

Residual (SRMR) and NFI. Table 4 shows that the SRMR value is  $0.068 < 0.10$ , indicating that the model fits well or meets the criteria for goodness of fit. Meanwhile, the NFI value of 0.740 indicates that the model is sufficiently good.

Pearson's correlation is applied to explore the correlation between dependent and independent variables, and Table 4 presents the values of Pearson's correlation analysis.

Based on the results in Table 5 and Figure 1, the T value for capability is 3.636, with a significance

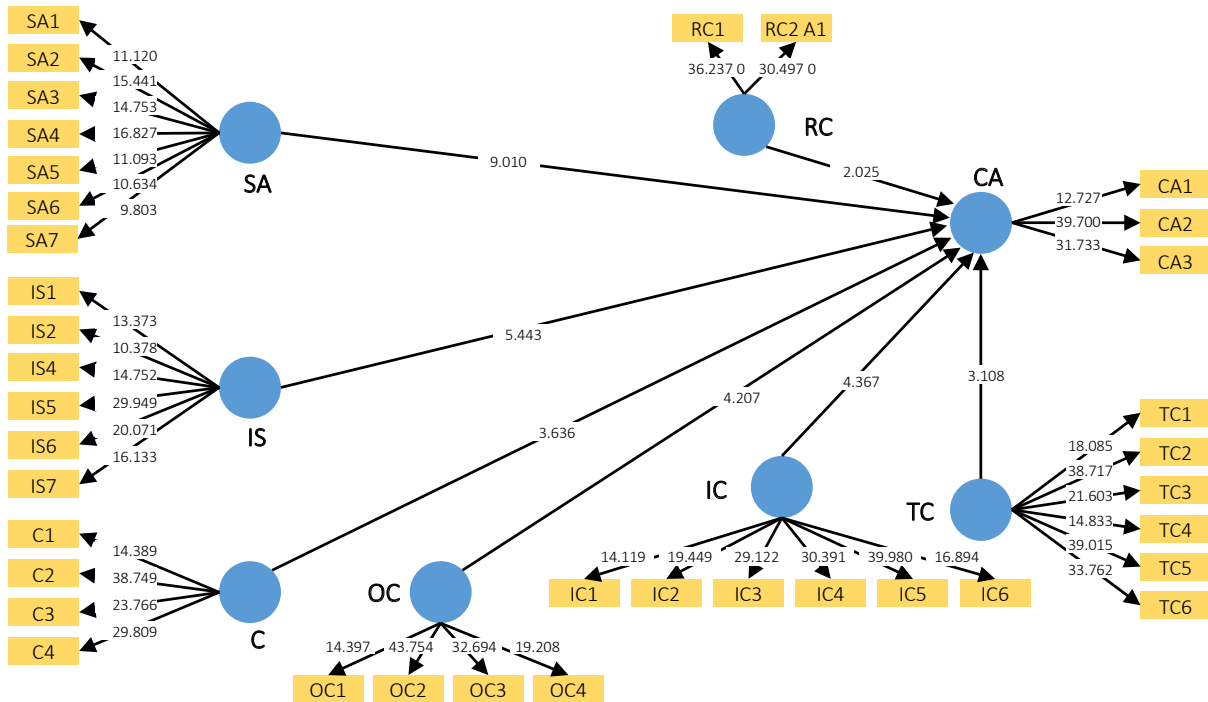


Figure 1. Construct's factor loading of SEM-PLS result

Table 4. Correlation matrix

|    | C     | CA    | IC    | IS    | OC    | RC    | SA    | TC    |
|----|-------|-------|-------|-------|-------|-------|-------|-------|
| C  | 0.796 |       |       |       |       |       |       |       |
| CA | 0.609 | 0.833 |       |       |       |       |       |       |
| IC | 0.708 | 0.685 | 0.765 |       |       |       |       |       |
| IS | 0.668 | 0.437 | 0.621 | 0.753 |       |       |       |       |
| OC | 0.645 | 0.662 | 0.638 | 0.494 | 0.796 |       |       |       |
| RC | 0.634 | 0.602 | 0.62  | 0.448 | 0.598 | 0.904 |       |       |
| SA | 0.288 | 0.205 | 0.324 | 0.389 | 0.231 | 0.216 | 0.745 |       |
| TC | 0.701 | 0.583 | 0.689 | 0.514 | 0.591 | 0.672 | 0.286 | 0.777 |

level of 0.000. Thus, capability positively influences the improvement of Competitive Advantage in Indonesia's tourism and maritime sector, meaning *H1* is accepted. The T value for Innovation Culture is 4.367, with a significance level of 0.000. Therefore, innovation culture positively influences the improvement of Competitive Advantage in Indonesia's tourism and maritime sector, meaning *H2* is accepted. The T value for Innovation Strategy is 5.443, with a significance level of 0.000. Thus, the Innovation Strategy positively influences the improvement of Competitive Advantage in Indonesia's tourism and maritime sector, meaning *H3* is accepted.

The T value of Operation Capability is 4.207 with a significance level of 0.000. Therefore, Operation Capability positively influences the improvement

of Competitive Advantage in Indonesia's tourism and maritime sector, meaning *H4* is accepted. The T value of Response Capability is 2.025, with a significance level of 0.043. Thus, Response Capability positively influences the enhancement of Competitive Advantage in Indonesia's tourism and maritime sector, meaning *H5* is accepted. The T value of Strategic Alignment is 9.010, with a significance level of 0.000. Therefore, Strategic Alignment positively impacts the enhancement of Competitive Advantage in Indonesia's tourism and maritime sector, meaning *H6* is accepted. The T value of Technological Capability is 3.108 with a significance level of 0.000. Thus, Technological Capability positively influences the improvement of Competitive Advantage in Indonesia's tourism and maritime sector, meaning *H7* is accepted.

**Table 5.** Hypotheses testing

|         | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics | P Values | Remarks     |
|---------|-----------------|----------------------------|--------------|----------|-------------|
| C → CA  | 0.299           | 0.081                      | 3.636        | 0.000    | Significant |
| IC → CA | 0.363           | 0.083                      | 4.367        | 0.000    | Significant |
| IS → CA | 0.375           | 0.069                      | 5.443        | 0.000    | Significant |
| OC → CA | 0.292           | 0.072                      | 4.207        | 0.000    | Significant |
| RC → CA | 0.160           | 0.078                      | 2.025        | 0.043    | Significant |
| SA → CA | 0.315           | 0.036                      | 9.010        | 0.000    | Significant |
| TC → CA | 0.230           | 0.073                      | 3.108        | 0.000    | Significant |

## 4. DISCUSSION

This study found that capabilities are related to the enhancement of competitive advantage. These findings prove that the competitive advantage of Indonesia's tourism and maritime sector can be influenced by the ability or skills of individuals to utilize existing resources, such as proficiency and knowledge of technology, as well as capability in the production process (Jin et al., 2014). When organizations have strong capabilities, they can generate ideas for creating a competitive advantage, for example, by implementing effective tourism destination management, including the development of modern tourism infrastructure and the improvement of service quality (Hatani, 2023). To enhance promotion, data management, operational efficiency, and tourist experiences, organizations can leverage advanced information and communication technology. Other studies indicate that capabilities can provide a competitive advantage (Adiputra & Mandala, 2017). The capabilities must have added value and uniqueness to generate a competitive advantage for Indonesia's Blue Economy in fisheries and tourism compared to its competitors.

Moreover, innovative culture is associated with an increase in competitive advantage. These findings indicate that the competitive advantage of Indonesia's tourism and maritime sectors can be influenced by an innovative culture. Having a high level of innovation culture can effectively motivate human resources to take risks and seek alternative solutions to challenges in the tourism and maritime sectors. Consistent with previous research conducted by Naveed et al. (2022), an innovative culture has a strong influence on organizational success, where human resources are encouraged to innovate. With an innovative

culture, organizations can develop unique, appealing, and customer-oriented products and services. According to the RBV theory, an innovative culture is considered a valuable and rare resource that can provide a competitive advantage to the organization. Based on a previous study by Alonso-Gonzalez et al. (2017), it is affirmed that the creation of innovation within an organizational culture enables companies to develop knowledge and strengthen their capacity to face an increasingly global and demanding environment, thus associated with the development of competitive advantage.

The study discovered that the adoption of innovative strategies has the potential to positively impact the enhancement of competitive advantage in Indonesia's tourism and maritime sectors. An innovative strategy is necessary to create a competitive advantage in the tourism and marine sectors. Pursuant to Rofaida (2020), the government designing effective innovation strategies can drive growth in Indonesia's tourism and maritime sectors (Rofaida et al., 2020). Indonesia has implemented an innovation strategy to develop the tourism sector through the official website of "Wonderful Indonesia." As a result, according to the Travel and Tourism Competitiveness Index (TTCI), the Wonderful Indonesia branding campaign has elevated Indonesia to the 32nd position, surpassing Thailand, ranked 36th, and Malaysia, ranked 38th (Widiaduta, 2022).

This study revealed that operational capabilities can influence the increase in competitive advantage in Indonesia's Blue Economic sector. Having high operational capabilities will drive the tourism and maritime sectors to efficiently manage resources. Consistent with previous research by Teece (2018), an organization needs to identify,

evaluate, and enhance operational capabilities through continuous improvement and the realization of innovative strategies. Adaptability and learning processes are essential elements in operational capabilities, which include logistics management, inventory management, cost control, and productivity improvement (Jin et al., 2014). Through efficient operations, organizations can offer competitive prices, increase profits, and provide better services.

The study concluded that the ability to respond effectively is linked to the improvement of competitive advantage. These findings demonstrate that the competitive advantage in Indonesia's tourism and maritime sectors can be influenced by response capability. According to Onamusi (2020), Response Capability is more than just increasing a company's competitive advantage. This can be a valuable asset in overcoming problems and uncertainty in the business environment. Organizations with high response capabilities can implement recovery strategies efficiently, minimize adverse impacts, and maintain operational continuity (Sardana et al., 2016). Response capability involves the ability of the tourism and marine sectors to adapt to environmental changes quickly. With a robust response capability, the tourism and maritime sectors can promptly identify trends and market changes, enabling them to adjust their offerings of products and services in a timely manner.

The study determined that strategic alignment is correlated with the enhancement of competitive advantage. These findings demonstrate that the competitive advantage in Indonesia's tourism and maritime sectors can be influenced by strategic alignment. Organizations need to understand strategic alignment, which is important in the midst of digital transformation and

global disruption (Johnson & Lederer, 2010). This literature addresses the challenges and provides valuable insights into flexible strategies that increase organizational adaptability and resilience, thereby driving sustainable competitive advantage, especially in the context of the Blue Economy sector. This can be achieved through clear strategic objectives and regular review and adjustment of business strategies to meet targets. Strategic alignment can help the tourism and maritime sectors choose the right target markets. By selecting the right target markets, organizations can focus on offering products and services that align with the needs and preferences of tourists, thereby creating a competitive advantage.

The study indicated that possessing technological capabilities is linked to the improvement of competitive advantage. These findings demonstrate that the competitive advantage in Indonesia's tourism and maritime sectors can be influenced by technological capability. In the era of digitalization and constantly evolving technology, effective utilization of technology can provide significant competitive advantages. This is in line with the previous study, according to Al-Mamary et al. (2022), which has proven that ongoing evolution is bringing the world to face the speed of sophistication in the field of technology. Organizations must consistently improve their technological capabilities to remain relevant in external conditions. The use of technologies such as applications, online platforms (social media), and websites can enhance interactions with tourists and provide a more personalized, convenient, and engaging experience (Sardana et al., 2016). By delivering superior user experiences, organizations can differentiate themselves from competitors and create a competitive advantage.

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## CONCLUSION

The sea's potential in Indonesia offers exceptional possibilities through its marine fisheries and tourism systems. Despite this potential, it has not yet played a significant role in driving economic growth. Consequently, the global spotlight is on the Blue Economy, seen as a catalyst for worldwide economic enhancement. This study aims to identify competitive advantages in various sectors of the blue economy, including fishermen, fish product exporters, marine product processors, marine tourism operators, fish farmers, and others. It aims to contribute to Indonesia's economic progress

by utilizing the RBV theory, which encompasses innovation, capabilities, and strategic alignment. The study expands the RBV theory by integrating innovation into strategy and culture. It proposes practical efforts and strategies for developing the blue economy, emphasizing existing capabilities, strategic innovation, and cultural change. Using a quantitative method, the research surveyed 1,500 respondents, with 319 usable responses providing insights into innovation and competitive advantage.

Key findings indicate that the progress of technology and innovation significantly influences the efficiency of Indonesia's tourism and marine sectors. Secondly, technological advancements impact the delivery of products/services in Indonesia's tourism and marine sectors. Thirdly, the presence of innovative products contributes to increased market sales. Lastly, effective business strategies can elevate the efficiency of Indonesia's tourism and marine sectors. This enhances Indonesia's marine potential in fisheries and tourism, addressing current limitations. With advancements in blue economy technology in the fisheries sector, marine companies have global engagement opportunities and can adapt to advancements.

This study also contributes to further advancing RBV theory within the blue economy sector by shedding light on how enhancing intangible resources such as innovation, capability, strategy, and technology can elevate competitive advantage in the blue economy sectors. Furthermore, it offers practical insights into blue economy development across marine tourism, fisheries, and seafood processing by emphasizing the necessity of prioritizing intangible resources in building organizational resilience for effective competition in the marine sector. It highlights that despite Indonesia's abundant marine resources, thriving ecosystems, and impressive seafood output, these factors alone are insufficient to drive the blue economy. Critical intangible factors like innovation, capability, strategy, and technology must also be cultivated.

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## APPENDIX A

**Table A1.** Variable measurements

| Variable   | Indicator   |
|--|---|
| <b>Capability</b><br>(Sardana et al., 2016)                  | C1: Exclusive equipment helps me gain a competitive advantage.  |
|  | C2: My employees have good mastery of technology skills.  |
|  | C3: I possess good technological knowledge.   |
|  | C4: My business has advanced production process capabilities.   |
| <b>Competitive Advantage</b><br>(Jin et al., 2014)           | CA1: Our firm competes with other firms by offering high quality products to our customers.   |
|  | CA 2: Our firm competes with other firms by offering dependable delivery to our customers.  |
|  | CA 3: Our firm competes with other firms by quickly introducing product in the market.  |
| <b>Innovation Culture</b><br>(Ojo & Volkova, 2023)           | IC1: I highly value any behavior related to creativity and innovation.  |
|  | IC2: I have an organizational (business) culture that encourages informal meetings and interactions.  |
|  | IC3: I have an organizational culture that encourages self-monitoring of performance.   |
|  | IC4: Employees are willing to take risks by continuously experimenting with new ways as a business development effort.                          |
|  | IC5: My organizational (business) culture encourages employees to share knowledge.  |
|  | IC6: My organizational (business) culture focuses on long-term performance.   |
| <b>Innovation Strategy</b><br>(Terziovski, 2010)             | IS1: The vision or mission of my business reflects the presence of innovation.  |
|  | IS2: Innovation has helped my business achieve its goals.   |
|  | IS3: Increasing production quantity is an essential part of the innovation process in my business.  |
|  | IS4: Improving administrative routines is part of innovation.   |
|  | IS5: Collaboration within the business is a crucial part of implementing innovation strategies.   |
|  | IS6: Improving product or service quality is one of the main goals of innovation strategies.  |
|  | IS7: The formulation of strategies affects improving the skills of my employees.  |
| <b>Operation Capability</b><br>(Sardana et al., 2016)        | OC1: My business has low labor costs.   |
|  | OC2: My business has good product/service delivery speed.   |
|  | OC3: My business has good delivery capabilities and broad reach.  |
|  | OC4: My business has low production costs.  |
| <b>Response Capability</b><br>(Jin et al., 2014)             | RC1: My business produces a high variety of products.   |
|  | RC2: My business quickly introduces new products to the market.   |
| <b>Strategic Alignment</b><br>(Sardana et al., 2016)         | SA1: I regularly review and adjust my business strategies to meet business goals/targets.   |
|  | SA2: I clearly communicate my business strategies to all employees.   |
|  | SA3: My business strategies are always aligned with other strategies.   |
|  | SA4: Strategies in each function (e.g., marketing strategy, financial strategy, etc.) align with the company's strategy.                        |
|  | SA5: Business strategies leverage existing capabilities.  |
|  | SA6: My business has clear strategic objectives.  |
|  | SA7: The production output of goods/services is a factor that has relatively high strength compared to other functions (e.g., human resources). |
| <b>Technological Capability</b><br>(Jeeanuntha et al., 2017) | TC1: Competing businesses have similar or identical technology to what my business has.   |
|  | TC2: Leaders/managers/Supervisors allocate resources to use technology.   |
|  | TC3: I consider the use of technology as a driver of business growth.   |
|  | TC4: Technology is used to guide the evaluation of new ideas.   |
|  | TC5: My employees actively seek information, ideas, and new technologies.   |
|  | TC6: My employees work to achieve specific technological goals or targets.  |