

**DETERMINATION OF BUSINESS SUSTAINABILITY
OF TIC SERVICES INDUSTRY IN INDONESIA
(CASE RESEARCH ON SURVEY SERVICE SOE HOLDING COMPANIES)**

**A Dissertation submitted as partial fulfillment of the requirements for the Degree of
DOCTOR OF PHILOSOPHY IN INTERNATIONAL BUSINESS**

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ABSTRACT
DETERMINATION OF BUSINESS SUSTAINABILITY
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Through a case research approach to the holding of SOE survey service, in a complete context, with a thorough understanding, this research was conducted to analyze and build synthesis and construction related to the determination of the business sustainability of the TIC service industry in Indonesia. The fundamentals of Indonesia's TIC service industry, which have remained strong and resilient through various economic cycles and political uncertainty, will not last indefinitely and are still relevant in the future. An in-depth empirical research is required because of the stakes in the business's long-term viability. The need for more research is the foundation for implementing this research process on natural objects, namely 3 member companies of the survey service SOE holding in the Indonesian TIC service industry: PT BKI, PT SI, and PT Sucofindo, where the informants/participants as the data source are the Board of Directors, *Vice President*, and senior managers, with *purposive sampling* based on considerations of credibility and information richness. The research method used is a qualitative approach with exploratory case studies. The data collection uses triangulation data collection techniques. Moreover, using the Miles & Huberman interactive model data analysis technique consists of four stages: data collection, data reduction, data presentation, and drawing conclusion/verification, with the help of the QSR NVivo 12 Plus computer program. This research obtained 8 findings, namely the development of the Indonesian TIC service industry began only 60 years ago, was dynamic in three periods, had a high survival rate, had a growing revenue and profit trend, and was highly dependent on regulations and standards application. Furthermore, the current state of Indonesia's TIC service industry has been recognized internationally through accreditation, certification, authorization, and association membership. The impact of the Covid-19 pandemic, on the other hand, forced it to move faster into the digital era of Industry 4.0, resulting in a shift in business practices and models. Anomaly symptoms of

Indonesia's macroeconomic data with microdata/surveys on the retail market characterize this transformation. The future projection of Indonesia's TIC service industry still has much potential in several new sectors. It is becoming more competitive due to the presence of big players from abroad, so it will continue to develop in tandem with the advancement of civilization and market demand. The *forecast* for the Indonesian TIC service industry's business continuity is expected to continue to rise, and it will be required to keep up with the industrial world's growth. As a result, the ability of the Indonesian TIC service industry to be adaptive, anticipative, and proactive in developing new services in order to gain a strategic position in the customer's business *supply chain* through the application of the *shared resources/shared economy* concept will be a determining factor. The factors influencing the long-term viability of the Indonesian TIC service industry are examined from the economic performance perspective, namely the government of the Republic of Indonesia's intervention factor, which is focused on infrastructure development. There are also economic conditions at the national, regional, and global levels that affect TIC service users' business growth and fluctuations, the TIC service industry's financial performance at the business unit level, and market and price movements. Then there are the factors that influence the long-term viability of the Indonesian TIC service industry in terms of environmental performance, such as public concern about environmental *issues*, the importance of *image and benchmark* factors, and the regulatory authority's magnitude through *Domestic and International Regulatory Compliance* policies. The factors that influence the sustainability of the Indonesian TIC service industry business in terms of social performance aspects are the implementation of *Corporate Social Responsibility (CSR)*, the *Government Social Responsibility* factor, as well as the socio-economic condition of the Indonesian people, particularly purchasing power, linked to public awareness of the need for quality products/services/processes. Finally, there are several strategic model options for ensuring the sustainability of the TIC service industry business in Indonesia, including a *Cost-Effectiveness Strategy* based on an *accrual basis* cost management, a *Focus Strategy* which targets specific things according to the demands of the latest market needs, *Innovation Strategy* based on differentiation and digitization, a *Stakeholders Based Approach Strategy* based on three pillars (*Customer Intimacy, One-Stop Service, Partnership*), and *Strategies for Addressing Capital Flight*.

Keywords : *Business Sustainability, TIC (Testing Inspection Certification), Services Industry, Survey Service, SOE (state-owned enterprise), Holding Companies.*

DECLARATION

“I do hereby attest that I am the sole author of this project/dissertation and that its contents are only the result of the readings and research I have done”.

The dissertation titled “DETERMINATION OF BUSINESS SUSTAINABILITY OF TIC SERVICES INDUSTRY IN INDONESIA (CASE RESEARCH ON SURVEY SERVICE SOE HOLDING COMPANIES)” submitted for the award of Doctor of Philosophy in International Business at Selinus University of Sciences and Literature, Faculty of Business and Media; is my original work and the dissertation has not formed the basis for the award of any degree, associateship, fellowship or any other. The material borrowed from similar titles other sources and incorporated in the dissertation has been duly acknowledged.

The research papers published based on the research conducted out of the course of the research are also based on the research and not borrowed from other sources.

Makassar – Indonesia, April 18th 2022



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For the first and foremost, I would like to express my deepest gratitude for Almighty God, Allah Subhanahu Wa Ta'ala, for the countless blessings and love so I have finally completed this dissertation project.

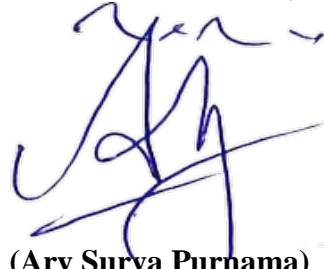
Big appreciation goes to my student advisory, Professor Salvatore Fava PhD, for his marvelous supervision, guidance and encouragement. Sincere gratitude is extended to his generous participation in guiding, constructive feedback, kind support, and advice during my PhD research.

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CHAPTER I

INTRODUCTION

A. Research Background

Testing, Inspection, and Certification (TIC) services ensure that a product meets its standards and specifications. This guarantee is required to protect consumers, improve the national industry's competitiveness, and improve oversight of the implementation of government regulations.

The Indonesian government has set some quality and service standards for various products and services through the Indonesian National Standard (SNI). However, the number is still relatively small compared to the total products and services circulating in the community. In addition, as an extension of the government, the Ministry of SOE (State-Owned Enterprises) intends to establish a *holding* in the field of survey, inspection, and certification services, to increase the role of survey and certification SOE in Indonesia. At the same time, they were increasing the national TIC service industry's competitiveness by partnering with global TIC companies (SGS, Bureau Veritas, Intertek, and others), which have entered as competitors and run their business in Indonesia with a *market share* description shown in Figure 1.1.

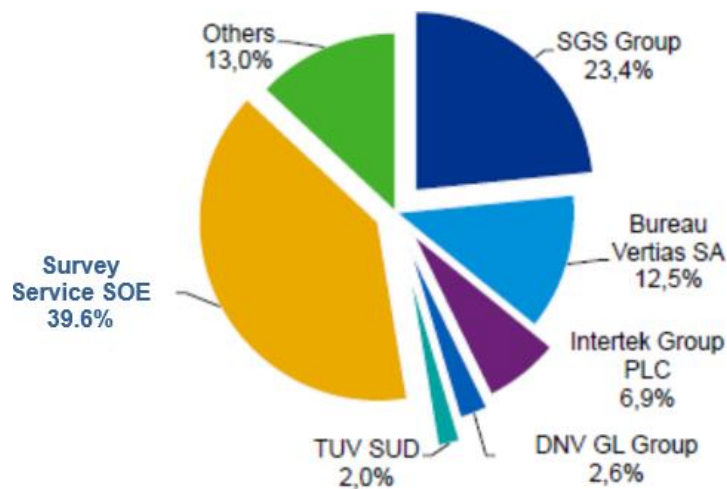


Figure 1. 1. Market Share of Indonesian TIC Industry in the Period 2017 – 2024.

Source: PT Superintending Company of Indonesia (2019).

Compared to several Asian countries, such as Thailand, Malaysia, and China, Indonesia is still lagging in product certification and standardization. The lack of public awareness of the importance of product standardization for local products and the scarcity of product testing laboratories in Indonesia continue to stymie the TIC service industry's growth. Even though the national TIC service industry's current performance is not ideal, business opportunities in this field remain plentiful. The more open the Indonesian economy is, the more opportunities the service sector industry will have, increasing business competition in Indonesia's TIC sector.

The concept of *business sustainability*, which is oriented toward achieving long-term performance, is critical for the industry because, without it, the industry will tend to stagnate and be poorly directed. As a result, industry players must make strategic efforts to ensure the long-term viability of their businesses (Puspitaningtyas, 2017, pp. 254-255). Furthermore, business sustainability can be achieved by business actors' ability to work continuously while still paying attention to the environment's natural resources and their human resources, including economic, ecological, and social aspects, to face various risks and changes (Suheimi, Fatchiya, & Harijati, 2018, p. 3113).

The TIC service industry in Indonesia is considered ready to take advantage of some potential growth opportunities, as it is built on a solid foundation. This is because Indonesia's TIC service industry has several distinct advantages. First, companies as operators typically provide higher margins and require lower capital expenditures than other service industry sectors. Second, due to long-term contracts and regulatory framework agreements that are strengthened by regulation, financial performance is usually accompanied by excellent revenue visibility. Because of these strong fundamentals, Indonesia's TIC service industry sector has been able to weather various economic cycles and political uncertainty.

However, no one can guarantee that this resistance will last indefinitely and will be relevant to future conditions, particularly when it comes to the stakes of business sustainability. Perhaps this resistance arises due to the TIC service industry's uniqueness, in which the impact is small and takes time to manifest, or it could be due to other fundamental factors that become immune. This is the basis for conducting this research process to explore comprehensively and thoroughly the business sustainability of the TIC service industry in Indonesia, using qualitative methods and triangulation/combined data collection techniques, and to further test its validity

through credibility, dependability, and confirmability tests. Based on the background information, this research will look into **the Determination Of Business Sustainability Of TIC Services Industry In Indonesia (Case Research On Survey Service SOE Holding Companies)**.

B. Research Focus

Because one of the assumptions in qualitative research is that an object's symptoms are holistic (complete and cannot be separated), qualitative researchers will not base their research solely on research variables but rather on the overall social situation. Place (*place*), actor (*actor*), and activity (*activity*) are all aspects of the research, and the three interact synergistically.

The holding of survey service SOE in Indonesia, which consisted of PT Biro Statistik Indonesia (PT BKI), PT Surveyor Indonesia (PT SI), and PT Superintending Company of Indonesia (PT Sucofindo), was determined as the research location after conducting a general exploration as well as preliminary observations on the Indonesian TIC service industry for the last six years (2014-2019). This selection was taken based on the consideration that this holding controls the Indonesian TIC market share of 39.6% with a diverse and complementary service portfolio *scope* and has high competitiveness *head to head* with global TIC companies. As a social situation, there are people (*actors*) involved (*activity*) in survey service SOE holding this (*place*), both structurally and functionally, in the TIC service industry's business sustainability in Indonesia.

Because the problem's scope is too broad, a qualitative researcher must narrow the scope of the research so that it is directed at the level of novelty of information obtained from social situations (in the field). "*A focused refers to a single cultural domain or a few related domains,*" according to Spradley in Sugiyono, implying that the focus is a single domain or several related domains of social situations (Sugiyono, 2018, p. 431). Based on this explanation, this research will be focused on the following areas:

1. Changes The Indonesian TIC service industry's *historical*, current, and future projections.
2. *Forecast* for the TIC service industry in Indonesia's business continuity.

3. Aspects of economic performance, environmental performance, and social performance are used to examine the factors influencing the TIC service industry's business sustainability in Indonesia.
4. The strategic model must be implemented for the TIC service industry in Indonesia to remain viable.

C. Problem Statement

Through a more in-depth follow-up research process, research begins by identifying and formulating the problem to be studied and is usually preceded by reflective questions about hot, controversial issues and demand for answers or solutions. Justification for the importance of the research problem to be raised is an essential factor that researchers must consider by researching all aspects related to the views of the subject to be studied and requires researchers to be directly involved in the process to follow it continuously in order to gain knowledge or even new theories from the research/research of the problem.

This research was conducted to specifically examine all aspects related to the business sustainability of the TIC service industry in Indonesia, based on the urgency of the needs of the industrial-scale business world that must be supported and strengthened by academic studies. It can also be reduced to the following formulation/research question:

1. What is the *history* of Indonesia's TIC service industry?
2. What is the current state of the TIC service industry in Indonesia?
3. What is Indonesia's TIC service industry projection in the future?
4. What is the TIC service industry's long-term viability *forecast* in Indonesia?
5. What economic factors influence the business sustainability of the TIC service industry in Indonesia?
6. What factors influence the TIC service industry's long-term business viability in terms of environmental performance in Indonesia?
7. What factors influence the long-term viability of the TIC service industry in Indonesia regarding social performance?
8. What should the strategic model be implemented to ensure the TIC service industry's long-term viability in Indonesia?

D. Research Objective

Since the start of the research, it must have clear objectives closely related to the type of research, the method used, and the importance of the research. The primary goal of qualitative research is to understand the most profound *meaning or understanding (Verstehen)* of an event, symptom, fact, event, reality, or problem rather than to research or prove the existence of a causal relationship or correlation between a problem or event (Raco, 2010, pp. 106-107). As a result, the overall goal of this research is to analyze, synthesize, and construct information related to determining the TIC's business sustainability in Indonesia, using a case research approach on the holding of survey service SOE in a broad context and with a thorough understanding. The specific goals of this research are to:

1. Learn everything there is to know about the TIC service industry in Indonesia's *history*.
2. Obtain in-depth knowledge of the current state of the TIC service industry in Indonesia.
3. Obtain detailed information on Indonesia's TIC service industry's future projections.
4. Obtain detailed information on the TIC service industry's business *forecasts* and long-term viability in Indonesia.
5. Learn more about the factors that influence the TIC service industry's economic viability in Indonesia.
6. Obtain detailed information on the factors that influence the TIC service industry's business sustainability in terms of environmental performance in Indonesia.
7. Obtain in-depth information on the factors that influence the TIC service industry's business sustainability in terms of social performance in Indonesia.
8. Obtain the detailed information on the strategic model that must be implemented to ensure the TIC service industry's long-term viability in Indonesia.

E. Significance of the Research

1. Theoretical Significance

According to some experts, such as Creswell, Johnson, Marshall, and Rossman in Bandur, a research problem can benefit the development of science if it can close a gap in the developing literature, replicate and expand existing knowledge, and broaden new perspectives (Bandur, 2019, pp. 9-10).

As a result, in terms of theoretical benefits, the findings of this research can give birth to a new theory, which can serve as a starting point for researchers and academics in the research and further research of the concept of *business sustainability* as a whole, comprehensively and comprehensively. Although scientific research has practical implications and innovative policies, this result is consistent with the primary goal of scientific research, namely the advancement of science.

2. Practical Significance

Meanwhile, in terms of practical benefits, the findings of this research can provide all of the information needed by Indonesia's TIC service industry in making strategic decisions to improve competitiveness, business profitability, business growth and expansion, and business continuity. The Republic of Indonesia's government can then use the findings of this research to develop roadmaps, regulations, and policies to stimulate, catalyze, and accelerate the TIC service industry's future contribution to national economic growth.

The statement of practical benefits gains would support from what Marshall & Rossman's emphasis in Bandur on the importance of a researcher continuing to review previous researchers' recommendations, even if these studies were conducted based on valid, credible, and reliable research (Bandur, 2019, p. 9). These suggestions are crucial for evaluating the implementation and changing practical issues that are not in line with theory and the foundations of existing policies.

F. Research Originality and Novelty

Research originality is a statement of the authenticity that the topic/research, materials, and/or methods used in the research have never been done by other researchers, at least according to the available information. According to Dawson's conception, "*Research is a considered activity which aims to make an original contribution to knowledge*" (Dawson, 2015, p. 22). A research is required to present the differences and similarities of the field of research studied with previous researchers to avoid repeating studies on the same things so that it can be seen what sides are different and so that the location of the research can be known. There are parallels between the research and previous studies. In addition, Dawson stated:

“Originality is doing something that has not been done before. Although this remains a relatively simplistic idea of the term, it is important to discuss how originality relates to projects. What can you do that is original? What type of things can you produce that are original? You can be original in two ways. First, you can be original in the way you do things – for example, doing something someone has done before but using a different technique or approach. Second, you can be original by producing or developing something that has not been produced before” (Dawson, 2015, p. 18).

Cryer backs this up by stating that originality of research instruments, techniques, and procedures, originality in exploring unknown or unexplored areas, originality in exploring unexpected studies, and originality of research data are all factors to consider when assessing the originality of a research. The originality of research by-products, originality of experience, and originality of research results as *“potentially publishable”* (Cryer, 2006, pp. 193-197). Meanwhile, Murray, Phillips, and Pugh propose an approach to defining originality based on several criteria (Murray, 2011, pp. 70-71), as follow:

- Saying something that no one else has ever said.
- Conducting first-of-its-kind empirical research.
- Put things together that have never been put together before.
- Reinterpret other people's material/ideas in new ways.
- Performing an action that has never been done before.
- Extend the use of existing techniques to new areas.
- Collaborate across disciplines and employ a variety of methods.
- Recognize topics in a discipline that others have not.
- Put existing knowledge to the test in a novel way.
- Expand knowledge in ways that have never been attempted before.
- For the first time, jotting down new information.
- Provide a thorough presentation of other people's ideas.
- Working on an original work while continuing a research project.

The next point is the novelty of the research, which is a criterion that must be met, as well as something that research must demonstrate in order to be able to produce valuable and valuable findings. Because according to Barker in Sukardi, the implications of research results'

novelty on the development of science and the business world can be extraordinary (*remarkable*), where a research result can bring individuals, institutions, or even nations to become *pioneers* or *leaders* in mastering technology (Sukardi, 2006, p. 120). Any research conducted on this basis must have a solid foundation to rely on the novelty that results. The phenomena that occur or the problems faced are two examples of events that can be used to demonstrate the novelty of a research's findings. In this case, the phenomenon or problem must be critical, and it must be thought to be difficult, with a solution that can only be found (*solved*) through systematic scientific activities, such as research (*research*). If a critical phenomenon or problem can be clearly defined, the novelty problem will be straightforward to explain, namely by demonstrating the contribution of the research findings to the critical phenomenon or problem. As a result, most of the novelties in the research can be formulated if a researcher can properly define the phenomenon or critical problem to be solved.

The observations of Francis in Phillips and Pugh, based on these references, about eight ways that should be considered in order to measure the originality and novelty of research (Phillips & Pugh, 2010, p. 69), the **Determination Of Business Sustainability Of TIC Services Industry In Indonesia (Case Research On Survey Service SOE Holding Companies)** research can be declared to have met the originality and novelty requirements because no other researcher has worked on and published it. Furthermore, according to Suheimi, Fatchiya, and Harijati's research findings, the three aspects (economic, ecological, and social) in the process of determining business sustainability (Suheimi, Fatchiya, & Harijati, 2018, p. 3113) will be attempted to be adapted, applied, and interpreted. It is hoped that the research into the scope of the TIC service industry in Indonesia, which has never been done before, will provide new evidence in solving the phenomenon or critical problem of the case research on the survey service SOE holding.

CHAPTER II

LITERATURE REVIEW

A. Theoretical Basis

1. Business Sustainability

Business sustainability, according to Handayani in Widayanti, Damayanti, and Marwanti, is a condition or business condition in which there are ways to maintain, develop, and protect resources while meeting the needs that exist in an industry (Widayanti, Damayanti, & Marwanti, 2017, p. 156). The methods used can be based on one's own experience, that of others, or on current economic conditions or conditions in the business world. As a result, business sustainability is defined as the consistency of business conditions, including growth, development, and strategies to maintain business continuity and development, all of which lead to business existence and resilience.

As a result, the business sustainability concept assumes that a company will continue to exist in the future, with business actors constantly striving to achieve business objectives and increase company value. Several factors influence *business sustainability*, and these factors are solid causes for a business to survive, including the compilation of business plans, regular business plan updates, competitor analysis, ease of entering new businesses, and the ability to calculate or calculate risk (Ligthelm, 2010, pp. 142-143). The company's success in innovating, managing employees and customers, and returning initial capital, are all *business sustainability indicators* (Schaltegger, Lüdeke-Freund, & Hansen, 2012, p. 101) (Aribawa, 2016, p. 4). This measure will show how the company has a development mindset and can sustainably capture innovation opportunities.

In a broader *scope*, the concept of business sustainability requires businesses with extraordinary resources to implement several socially oriented business practices by taking into account all their implications, namely *corporate social responsibility*, *cause marketing*, *cause-related marketing*, *corporate philanthropy*, *corporate community involvement*, *socially business practices*, and *social marketing* (Kotler & Lee, 2004, pp. 22-24). *The World Commission on Environment and Development (WCED)* at the United Nations General Assembly began the initiative in 1987, which was later known as the Brundtland

Report that every business effort must be made so as not to sacrifice future generations by taking into account three main elements, namely *people*, *profit*, and *the planet* (World Commission On Environment and Development, 1987). Following that, a series of UN conferences were held to find solutions to every business activity that impacts everyday life. One of them is the *United Nations Conference on Sustainable Development*, which took place in Rio de Janeiro, Brazil, on the 20th and 22nd of June 2012, and stated that the business world must pay attention to issues that are not solely related to business management (United Nations, 2012). These issues include, among others, paying attention to disaster reduction, climate change, biodiversity, energy, finance, employment, food security, health, oceans, poverty, technology, water and sanitation, even attention to demographic issues, rural development, and remote areas.

2. *Testing, Inspection and Certification (TIC)*.

Testing, Inspection and Certification (TIC) ensure that products and services adhere to internationally recognized safety, quality, and functionality standards and regulations. As a result, the current processes, mechanisms, and TIC standards applied to each product/service aim to verify the product/quality service's so that industrial or individual consumers can make informed decisions about which products/services to purchase.

In other words, TIC is a set of methods for providing services to customers, both companies and individuals, in various industry segments to increase productivity, efficiency, and processes to comply with globally recognized standards, regulations, and policies established by the government as a form of quality assurance of a product/service. In practice, TIC has helped various corporate organizations improve their efficiency and productivity by lowering costs and delivery times, managing and controlling supply chains at every production stage, increasing sales and after-sales distribution, enhancing safety and security, and reducing environmental and community impacts. TIC, in general, has made a significant contribution to ensuring the quality and credibility of products/services in meeting needs and responding to global demands and challenges.

TIC is defined and divided into three core areas by the *Hong Kong Council for Testing and Certification* in Tang, Lun, and Li, due to its diverse scale and nature (Tang, Lun, & Li, 2019, p. 53), as follow:

- Testing is the procedure-based determination of one or more object characteristics.
- Inspection refers to the examination of a product's design, manufacture, process, and installation, as well as the determination of conformity to specific or general requirements using professional judgment.
- Certification refers to third-party verification of products, processes, systems, and people.

3. Overview of the Global TIC Service Industry, Southeast Asia (ASEAN) and Indonesia

The introduction of new technologies, combined with increasingly stringent environmental regulations and increased safety and health measures, has shifted the industry's entire perspective on compliance with standards and regulations. Customers' expectations of product and service quality have risen due to these new technologies. As a result, manufacturers and service providers must use TIC services to ensure that each product, service, process, and infrastructure is high quality, safe, environmentally friendly, and standardized.

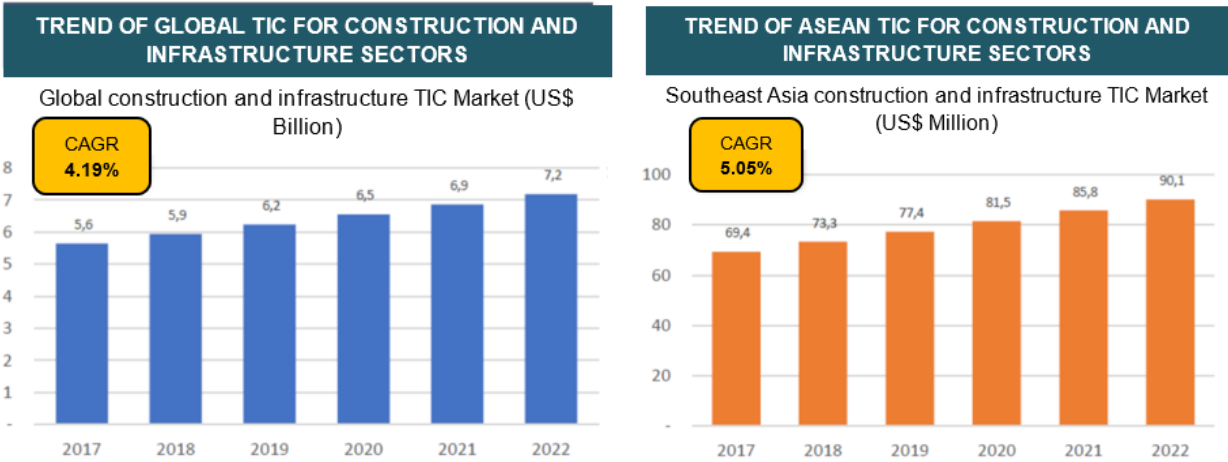
In addition, several recent events, such as the Volkswagen diesel emissions scandal and China's infant formula milk scandal, have prompted the implementation of stricter regulations in developing countries. Such examples highlight the significance of TIC services, which impose more complicated and complex regulations and standards and increase reliance on third parties to ensure compliance. Especially in several industrial sectors, such as Petrol and Gas, where the process of inspection, certification, and periodic testing is a must, TIC services are expected to continue to grow following market needs and demands. TIC services are also expected to expand in the food and beverage industry, consumer electronics, agriculture, and automotive (electric vehicles).

Global exports grew from USD 6.24 trillion in 1995 to USD 22.99 trillion in 2017. This growth is positively correlated with the growth of the global TIC services industry market, valued at USD 172.65 billion in 2018 and is expected to reach USD 233.32 billion in 2023, with a CAGR of 4.9%, during the period 2019-2024. In line with global growth,

Indonesia's TIC sector is expected to grow at a CAGR of 5.1 percent from 2018 to 2024, with inspection services growing at a CAGR of 6.2%, testing at 5.0%, and certification at 3.8% (PT Superintending Company of Indonesia (PERSERO), 2019, p. 4). TIC services are also expected to grow at a CAGR of 5.8%, from USD 295.2 million in 2017 to USD 438.1 million in 2024, with the estimated growth (CAGR 2018-2024) divided into several sub-sectors as follows:

- *Quality and safety service* 6.25%
- *Industrial inspections (maintenance turnaround, system certification, supplier evaluation, laboratory outsourcing, etc.)* 5.5%
- *Product performance evaluation* 5.2%
- *Valuation of imports with respect to standard* 4.9%
- *Certification and valuation of shipments* 4.7%
- *Product evaluation* 4.4%
- Other TIC services 4%

As an example, Figure 2.1 depicts a comparison of trends and the position of the global TIC industry, Southeast Asia (ASEAN), and Indonesia, particularly in the construction and infrastructure sector.



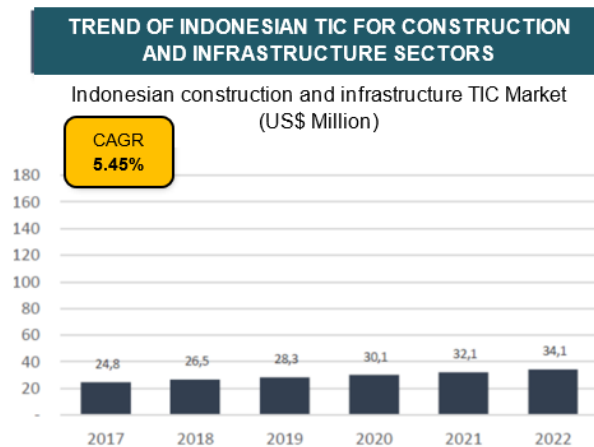


Figure 2. 1. Comparison of the Trends of Global, Southeast Asia (ASEAN) and Indonesian TIC Industries in the Construction and Infrastructure Sectors.

Source: PT Superintending Company of Indonesia (2019).

4. Holding of State-Owned Enterprises (SOE) Survey Services

In order to solve various national challenges, the Government of the Republic of Indonesia has issued the Nawacita program, which is then outlined in the National Medium-Term Development Plan (Rencana Pembangunan Jangka Menengah Nasional / RPJMN), one of which is through efforts to increase the role of SOE in the context of fostering and developing SOE for the medium term, through various policies. The main focus is on improving community services by strengthening the structure of efficient (competitive) and practical (service effectiveness) SOE, which will be implemented, among other things, through the formation of a *holding company*. Furthermore, SOE's capabilities are being developed, for example, by determining the best form and size for the continuity and development of certain SOE businesses, as well as increasing cooperation (synergy) between SOE and the private sector to boost domestic companies' competitiveness. Through innovative SOE management structures, SOE management can be separated from government financial management and replaced with competitive and professional commercial management to ensure maximum performance improvement and added value for the Indonesian nation's future.

The sectoral SOE holding initiative is a roadmap for restructuring and developing SOE, in line with the Nawacita program and the RPJMN, and motivated by the need for a survey service SOE to become a significant player in the domestic and Southeast Asian (ASEAN) TIC market. Survey services, which include PT Biro Klasifikasi Indonesia (PT BKI), PT Surveyor Indonesia (PT SI), and PT Superintending Company of Indonesia (PT Sucofindo), will be built to strengthen the role of the Government of the Republic of Indonesia in ensuring national *safety* and *security*. Furthermore, the establishment of a survey service by SOE Holding is expected to provide more comprehensive services and be more competitive in the face of private and foreign competitors. Simultaneously, the company's financial position and *market share* increased from 39.6% to 50%, accelerating inorganic growth and creating business and operational synergies through *shared services*, which positively impacts efficiency and service quality.

The total assets of the holding's financial projections are higher than *as-is*, with a difference of 73.3% in 2028, thanks to the efficiency and investment made after the synergy between SOE members holding survey services. There is a relatively significant difference in total liabilities between holdings compared to *as-is* without survey service SOE holdings due to the implementation of the investment using a *leverage* optimization scheme, reaching 36.7% in 2028. The addition of Capex, laboratories and company acquisitions resulted in this result, with costs assumed to be 70% debt.

Likewise, increased margins due to efficiency and increased revenues through company acquisitions, market share penetration, and new sectors through KSOs, caused the difference in operating income and operating profit between *as-is* and the holding of survey service SOE to reach 117.8% and 225.3% in 2028. The difference between *as-is* net profit and holding survey service SOE grew to 239.9% in 2028, indicating that survey service SOE holdings benefited both companies and shareholders. Furthermore, the survey service SOE holding's increased profitability increased state revenue through dividends and taxes. In the 2018–2028 period, dividends received under the holding synergy scenario totalled IDR 4.9 trillion, compared to IDR 3.0 billion in the *as-is* scenario. Tax revenue reached 6.0 trillion Rupiah in the survey service SOE holding synergy scenario, compared to 2.9 trillion Rupiah

in the *as-is* scenario. The state revenue does not include royalties, VAT, and other non-tax contributions.

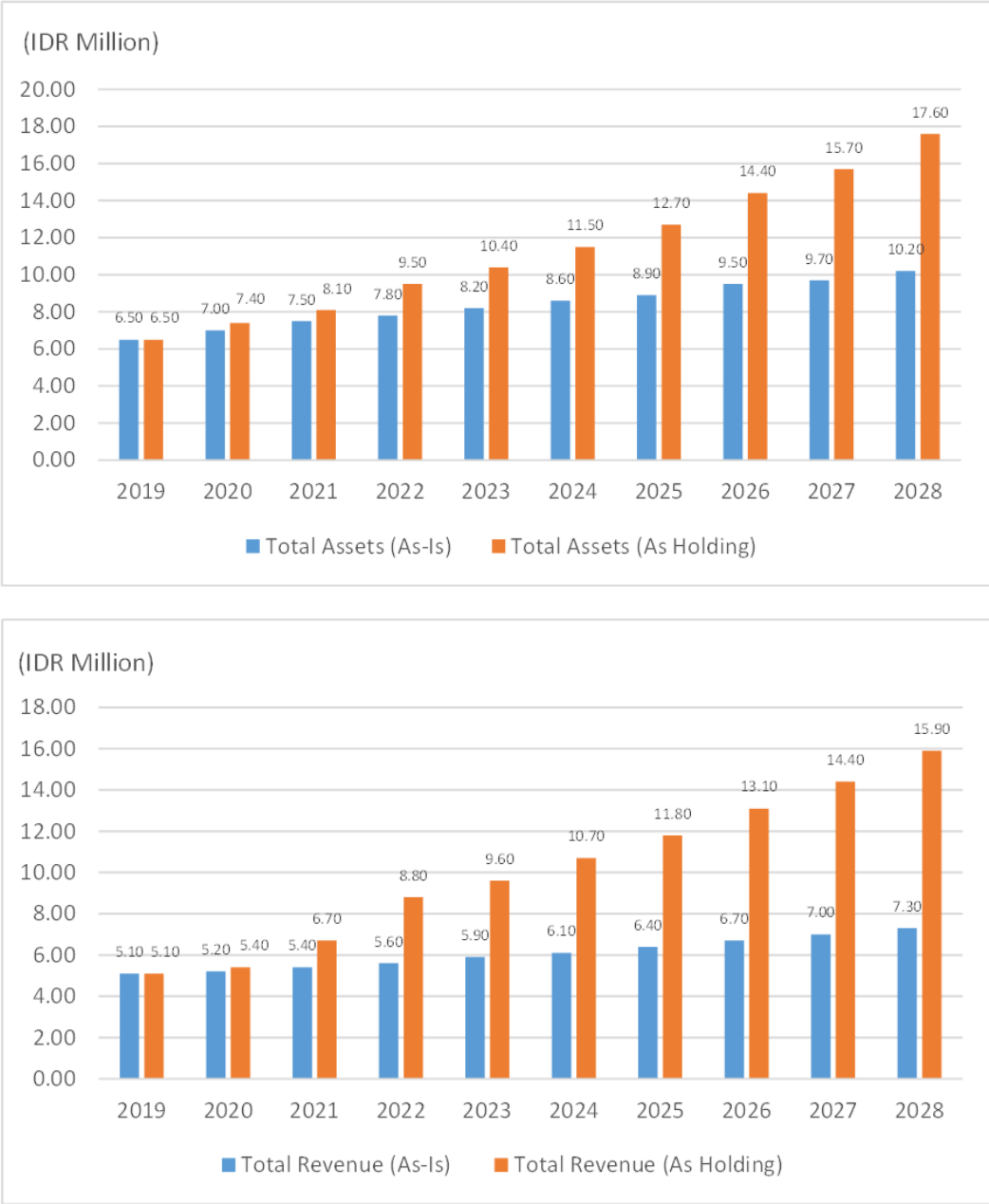


Figure 2. 2. Projected Expectations (Comparison of Stand Alone versus Consolidation) on Survey Service SOE Companies.

Source: Indonesia Shipping Line NEWS Editor (2019).

5. Profiles of 3 member companies holding survey service SOE

a. PT Biro Klasifikasi Indonesia (PT BKI)

PT Biro Klasifikasi Indonesia (PT BKI) was founded on July 1, 1964, and is the only national classification agency assigned by the Indonesian Government to classify Indonesian-flagged commercial vessels. It is also the fourth Asian classification agency after Japan, China, and Korea. The Minister of Sea Transportation's Decree No. Th. 1/17/2, dated September 26, 1964, concerning Regulations for Implementing the Obligation for Indonesian-flagged Ships to have a ship classification certificate issued by PT BKI, confirmed this assignment. Classification is the process of categorizing ships based on their hull, machinery, and electrical systems, intending to determine the ship's seaworthiness.

The Government of the Republic of Indonesia enacted Law No. 9 of 1969 concerning the Stipulation of Laws and regulations No. 1 of 1969 concerning Forms of State Enterprises into law on August 1, 1969. On January 31, 1977, the Government issued Government Regulation Number 1 of 1977 regarding the Transfer of the Form of the Indonesian Classification Bureau State Company to a Limited Liability Company (Persero), based on Law Number 9 of 1969. Because the goals, tasks, and business fields of PT BKI are no longer limited to ship classification and include *non-class matter*, as international classification bodies existed before, the transfer of the Company's form to become a company is also the starting point for a modern classification body. The Company's objectives have become more focused and specific due to the change in its form, namely to promote, improve, and develop businesses related to the shipyard, shipping, and *Ocean Engineering* to ensure the safety of life and property at sea.

In 1982, PT BKI pioneered the commercial market, business diversification and a *profit maker* for the Company, based on the vast market potential and the capabilities of its human resources. The consulting and supervision industries are diversifying, followed by a broader business development process that includes the energy, industrial, *marine*, and *offshore* sectors. With a variety of experiences under its belt, PT BKI has been put to the test and continues to strive to provide the best technical services possible, with a commitment to creating the latest service innovations by following technological

developments in line with the needs of service users through its *research and development* division. One of them is through the support of *BKI Academy*, an internal training centre where PT BKI surveyors and inspectors can improve their competencies and qualifications as professionals in the fields of *marine*, energy, industrial, and *offshore*.

Classification and Non-Classification Services or Commercial Services are the two primary services provided by PT BKI. Conducting surveys, approval of drawings, issuance of certifications, and activities related to surveys and statutory certification are all examples of classification services. There are two types of service available: *single class* and *dual class*. Dual Class refers to collaboration with other classification organizations (*mutual representatives*). The Classification Service Branch Offices in Indonesia's major port cities provide these classification and statutory services. *Marine*, *Offshore*, *Industry*, and *Energy* are the four non-classification or commercial services categories. Three *Strategic Business Units (SBU)* and PT BKI's Commercial Branch Office are responsible for commercial services. The Company's operational development is accomplished by expanding the number of uses and types of services it provides, namely through service intensification and diversification in line with its core competencies.

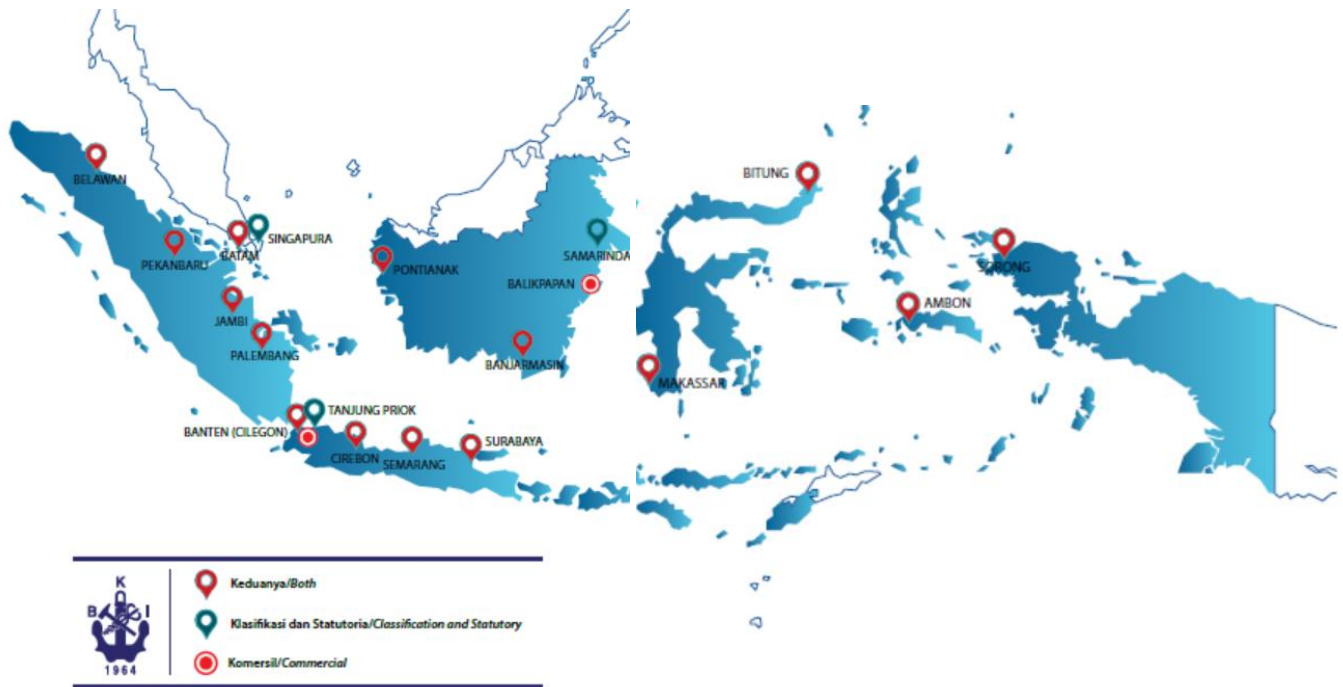


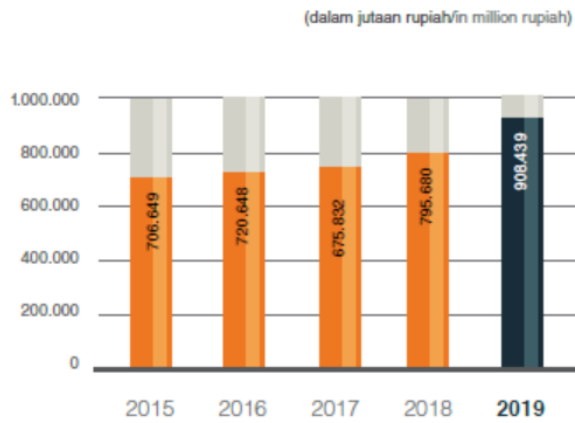
Figure 2. 3. Map of the Office Network of PT BKI.

Source: PT Biro Klasifikasi Indonesia (2020).

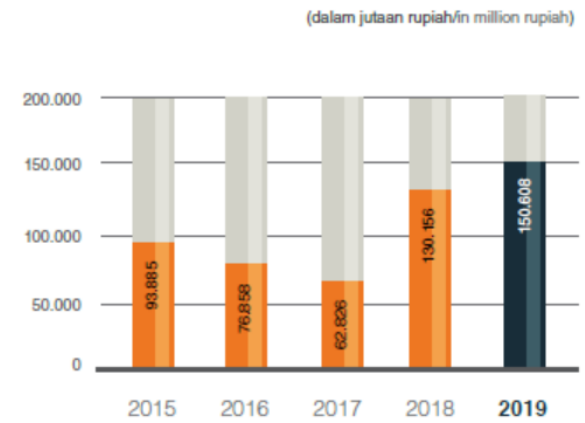
The year 2019 was marked by the improvement of the national maritime industry, which grew positively. This growth is inseparable from the increase in coal commodity prices and stable world oil prices, which have revived ship operations and have had a significant impact on the shipbuilding industry by increasing orders for the manufacture of new ships, docking of government ships and ship maintenance, which affect on-demand survey activities.

PT BKI was able to pass the financial year full of optimism and growth, as evidenced by an increase in the Company's performance, with operating revenues of Rp 908.44 billion, up 14% from Rp 795.68 billion in 2018, and reaching 110.57% of the budget. Revenue from the Classification segment was Rp 492.33 billion, or 116.51% of the 2019 budget, Rp 422.56 billion, or a 4.37% increase over revenue from the Classification segment in 2018. Similarly, revenue from the Commercial segment totaled Rp 416.11 billion, accounting for 104.28% of the Rp 399.04 billion budget for 2019.

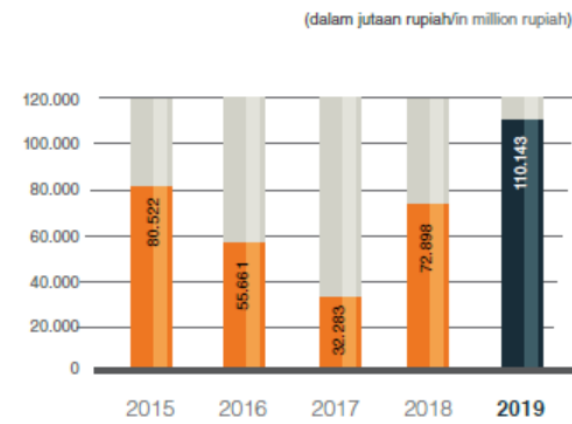
Revenues



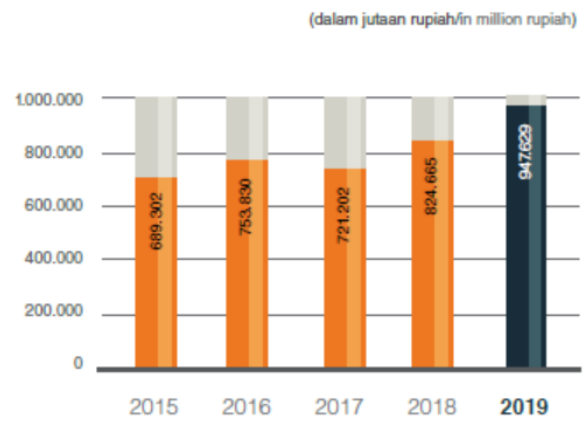
Operating Incomes



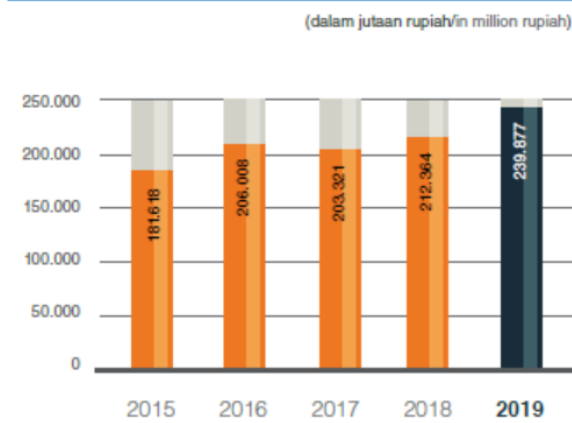
Net Incomes



Total Assets



Total Liability



Total Equity

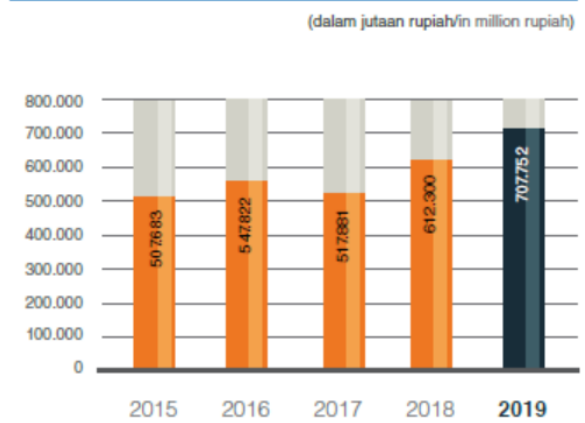


Figure 2. 4. Financial Highlight of PT BKI for the period 2015-2019.

Source: PT Biro Klasifikasi Indonesia (2020).

b. PT Superintending Company of Indonesia (PT Sucofindo).

PT Superintending Company of Indonesia (Persero), also known as “SUCOFINDO” or the “Partnership,” was founded on October 22, 1956, under the name PT Superintending Company of Indonesia (Persero), based on the Deed of Notary Johan Arifin Lumban Tobing Sutan Arifin Number 42. (PT Sucofindo). The Indonesian government later transformed PT Sucofindo into a joint venture company in collaboration with *Societe General de Surveillance Holding SA (SGS)*, the world's largest inspection company headquartered in Geneva, Switzerland, with a 50% share composition. The ownership structure of PT Sucofindo has changed several times. In 1961, the composition was changed to 20% SGS and 80% Indonesian government, then to 5% SGS and 95% Indonesian government until now.

PT Sucofindo's business started by providing Inspection and Supervision services in the trade sector, especially agricultural commodities. PT Sucofindo did not make a profit until the early 1960s due to low demand for survey services and a lack of public understanding of surveyor services. PT Sucofindo did not diversify its business until 1964, when it added warehousing, shipping, fumigation, industrial cleaning, laboratory analysis, and industrial and marine engineering services to its portfolio. Since then, profits have increased significantly, with net income increasing by 998% from 1976 to 1983. The Indonesian government tasked PT Sucofindo with implementing the ATE (Export Trading Administration Application) in 1985 to assist the Indonesian government in ensuring the smooth flow of goods and securing the country's foreign exchange during the export-import trade process. However, in July 2001, the assignment of ATE, which so far has generated about 50% of PT Sucofindo's revenue, had to be unilaterally terminated by the Indonesian government, which had a significant enough impact that the Company had to start a program of organizational transformation and to restructure the following year. The transformation was completed from a decentralized operating model and organizational structure to a centralized 10 *Strategic Business Units (SBU)*. PT Sucofindo experienced a *turnaround* during this period of transformation when the Company began to make money and set a long-term plan (RJP) revenue target of Rp 1 trillion for 2010, which was met in 2007.

Along with the business world's development needs, At the age of 64, PT Sucofindo has developed services in the fields of Agriculture, Forestry, Mining (oil-and-gas and other), Construction, Processing Industry, Marine, Fisheries, Government, Transportation, Information Systems, and Renewable Energy in the fields of inspection and audit, testing and analysis, certification, consulting, and training. PT Sucofindo has also become a more competitive surveyor company due to its expansion into several ASEAN countries, as part of its vision to improve services and competitiveness in the global market.

As of December 31, 2019, PT Sucofindo's services were available in 35 branch offices and 31 laboratory service points across Indonesia, with markets, served including the Mineral & Coal Industry; Oil & Gas Industry; Agriculture, Marine & Forestry Industry; Basic & Chemical Industry; Goods & Consumption Industry; Infrastructure, Utilities & Transportation Industry; Trade, Service & Investment Industry; Government Agency; Financial Services; as well as Property & Construction Industry.

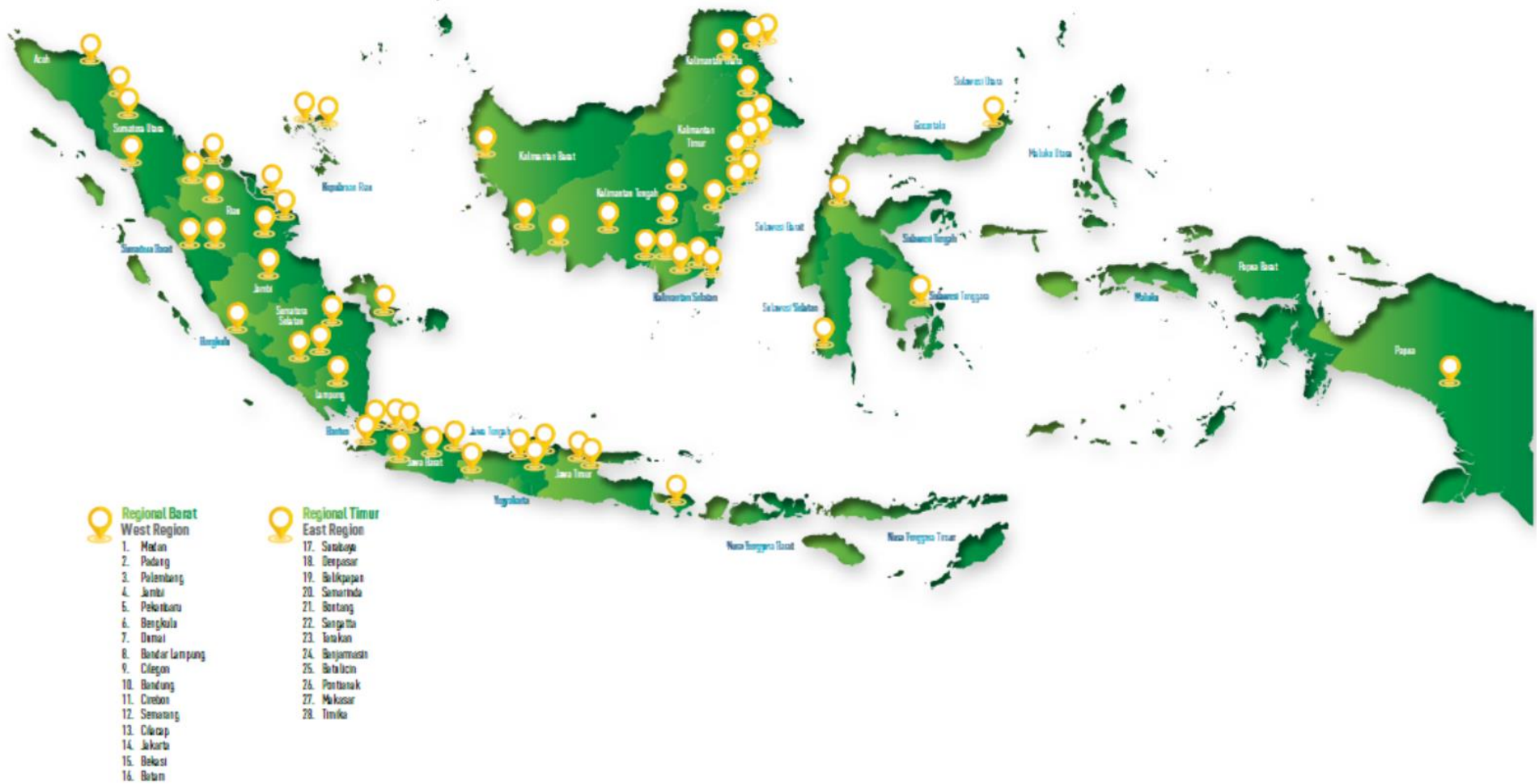


Figure 2. 5. Business Networks and Operating Area of PT Sucofindo.

Source: PT Superintending Company of Indonesia (2020).

Based on the Company's internal data, until the end of 2019, PT Sucofindo was still the market leader in the *TIC (Testing, Inspection, Certification)* industry in Indonesia, with a market share of 31.04%. In 2019, Indonesia's total TIC industry market was expected to reach Rp 8.58 trillion. Compared to the previous year, PT Sucofindo's market share increased by 48%, to 21.03% in 2018.



Figure 2. 6. PT Sucofindo's market share in the TIC industry over the last 5 years.

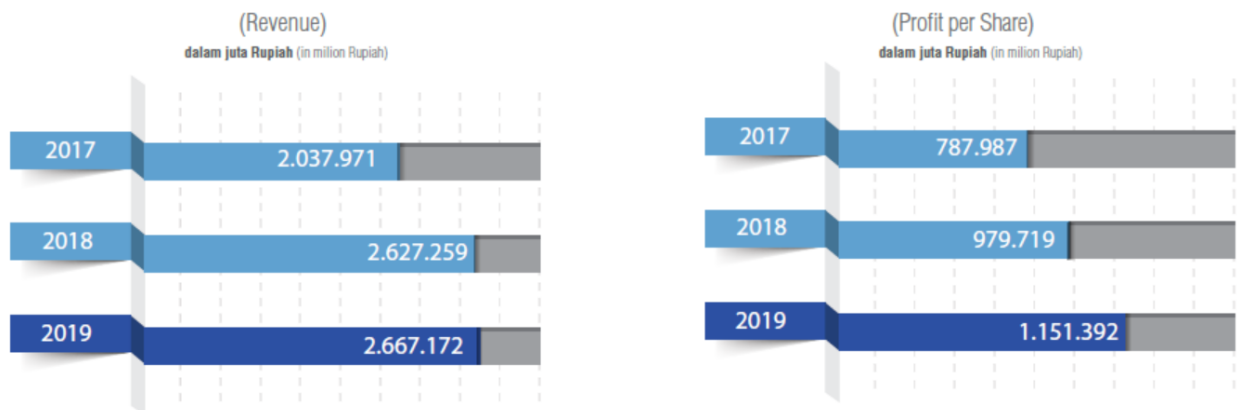
Source: PT Superintending Company of Indonesia (2020).

PT Sucofindo's revenue increased significantly year over year, despite increased competition and uncertain economic conditions resulting from the China-US trade war and lower prices for several essential export commodities such as palm oil and coal. To maintain its position as the market leader in the field of TIC services in Indonesia, PT Sucofindo makes constant efforts to maintain and grow market share, including:

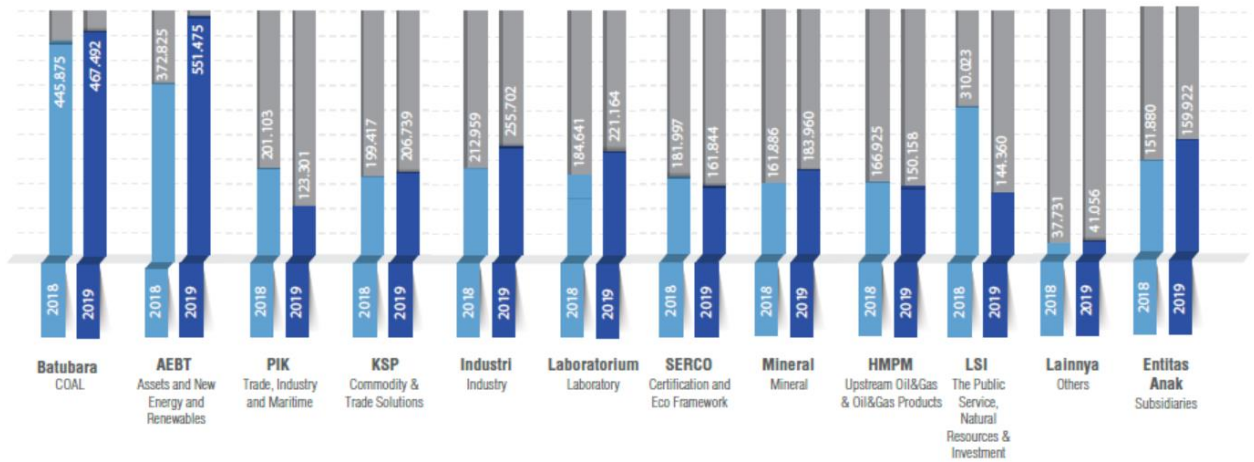
- Increasing market penetration and market share for survey services through *cross-selling* strategies, bundling services/integrated services, and synergies with other SOEs. Conduct online promotions using *Search Engine Optimization (SEO)*, *social media marketing*, *email marketing*, and Search Engine Marketing (SEM) to optimize company services content.
- Adding new service units in several locations to accommodate customers and potential customers who are not served by the nearest Branch/Unit.

- Use the *Customer Relationship Management* (SIAP-CRM) application to implement customer management.
- Use *Customer Experience Scores* such as the Customer Satisfaction Index, *Brand Awareness*, *Net Promoter Score*, and others to digitize the Customer Satisfaction Survey (SKP) process.

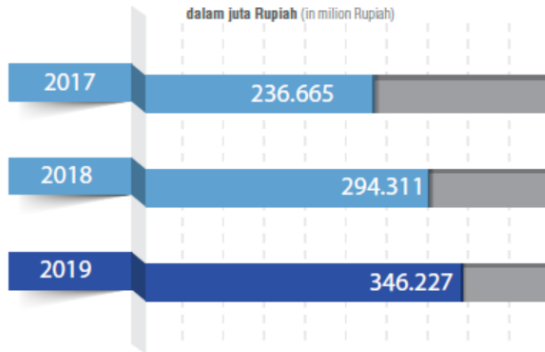
PT Sucofindo earned Rp 2.67 trillion in revenue in 2019, up 1.52% from the previous year. Since it was first established, this revenue has been the highest ever achieved by PT Sucofindo. Likewise, the achievement of net profit in 2019 of Rp 346.23 billion, an increase of 17.64% compared to the previous year of Rp 294.31 billion. This strong performance was reflected in EBITDA, which increased by 18.77% to Rp 574.57 billion from Rp 483.79 billion the previous year. Meanwhile, PT Sucofindo was able to achieve a score of 92.66 with the title “Very Good” in the quality aspect of the implementation of *Good Corporate Governance*, which was supported by the results of the *assessment* Superior Performance Assessment Criteria (KPKU), which reached a score of 617.00 in the *Emerging Industry Leader* category.



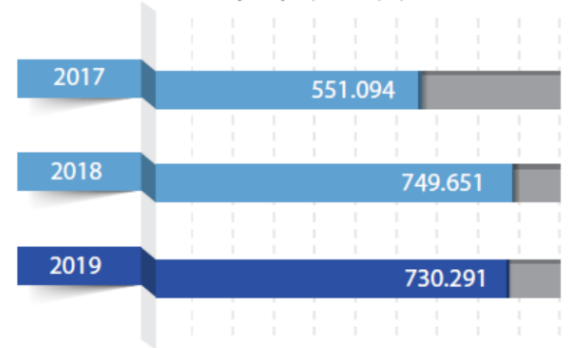
(Detailed Revenue)
dalam juta Rupiah (in million Rupiah)



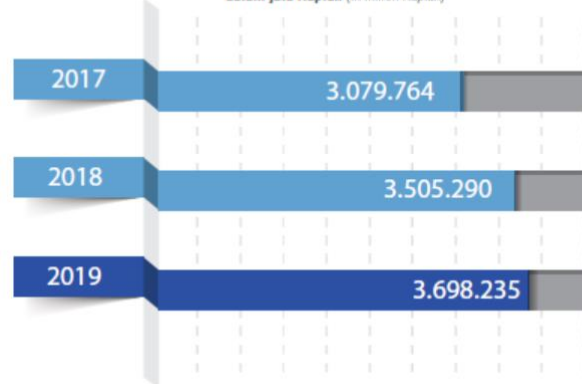
(Net Profit)
dalam juta Rupiah (in million Rupiah)



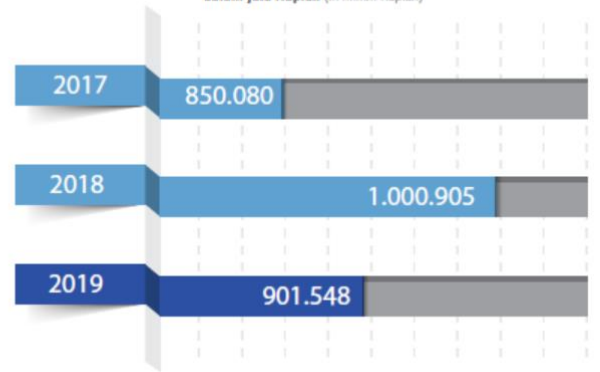
(Gross Profit)
dalam juta Rupiah (in million Rupiah)



(Asset)
dalam juta Rupiah (in million Rupiah)



(Liability)
dalam juta Rupiah (in million Rupiah)



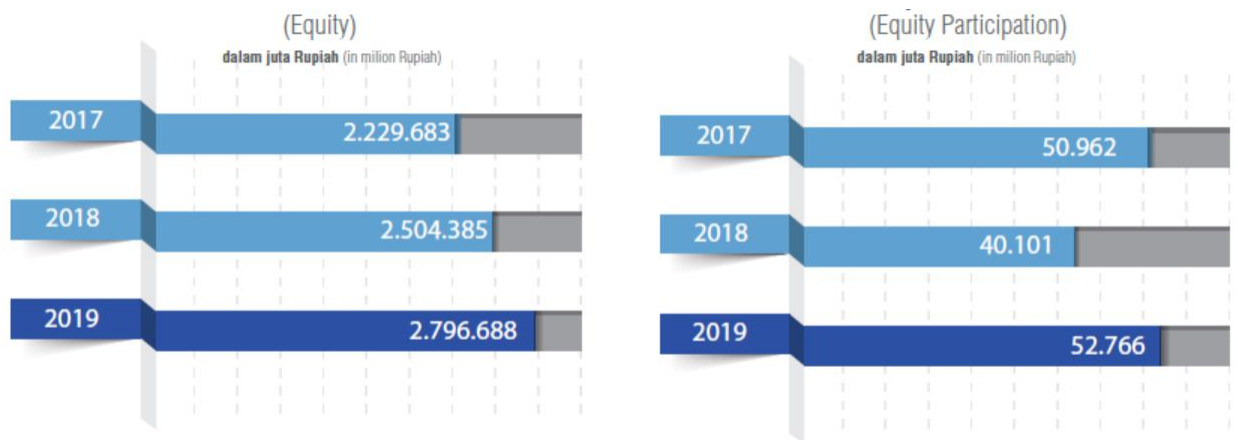


Figure 2. 7. Financial Highlight of PT Sucofindo for the period 2017-2019.

Source: PT Superintending Company of Indonesia (2020).

c. PT Surveyor Indonesia (PT SI)

PT Surveyor Indonesia (Persero), or simply “PT SI”, was established on August 1, 1991, as a joint venture between the Government of the Republic of Indonesia, PT Sucofindo (Persero) and Societe Generale de Surveillance, SA (SGS), based on the Law Foreign Investment No. 1 of 1967, Law no. 11 of 1970, Government Regulation no. 45 of 1991 and the approval of the President of the Republic of Indonesia No. B-243/Pres/7/1991 dated July 25, 1991, through Notification Letter regarding Presidential Approval from the Chairman of the Investment Coordinating Board No.208/I/PMA/1991 dated July 27, 1991. PT SI was established based on the Deed of Notary Muhani Salim, SH, No. 154, dated July 29, 1991, domiciled in Jakarta, which was later amended by deed No. 20 dated November 6, 1991, before the same notary. The Minister has approved the deed of establishment and amendments of Justice of the Republic of Indonesia with Decree No. C2-7104HT.01.01 dated November 26, 1991, published in the State Gazette of the Republic of Indonesia No. 3 dated January 10, 1992 Supplement No. 120/1991.

PT SI was established to assist the Government of the Republic of Indonesia in facilitating the flow of capital goods and equipment to Indonesia from around the world by providing international standard pre-shipment inspection services. PT SI has defined its mission as a survey service company in a broader sense since April 1997. PT SI is now more determined than ever to realize its goal of becoming a world-class *independent*

assurance firm. PT SI has experience serving the service market as a company that provides impartial assurance in every transaction (*Independent Assurance*) and is backed by human resources with high competence in providing the best service for PT SI customers. *Independent Assurance* from PT SI has focused on 5 (five) sectors: industry and trade, energy and mineral resources, telematics, transportation, agriculture, forestry, marine and the environment. Competencies in the five sectors cover 6 (six) service areas, namely industry and facilities, government and institutions, safety certification and public services, Petrol and Gas and petrochemicals, minerals and coal, and energy and power generation systems.

PT SI successfully obtained ISO 17020 and ISO 17025 accreditation for inspection and laboratory testing activities through *Independent Assurance*. With the help of 125 experts from various disciplines and collaborative support from various national and international institutions, the management system currently in place has met the requirements of ISO 9001, OHSAS 18001, and SMK3. PT SI has extensive knowledge of business processes due to its diverse experience, allowing it to provide services that are tailored to the specific needs of service users. PT SI continues to develop new services supported by technology to provide added value to customers. These innovative services provide appropriate benefits and, in the long run, make a strategic contribution to the national interest. PT SI is headquartered in Jakarta and operates 11 branch offices across Indonesia and 1 (one) branch office in Singapore, providing services to both domestic and international customers. PT SI's international network is supported by some partners worldwide who have international reputations in their respective fields to ensure optimal service delivery.

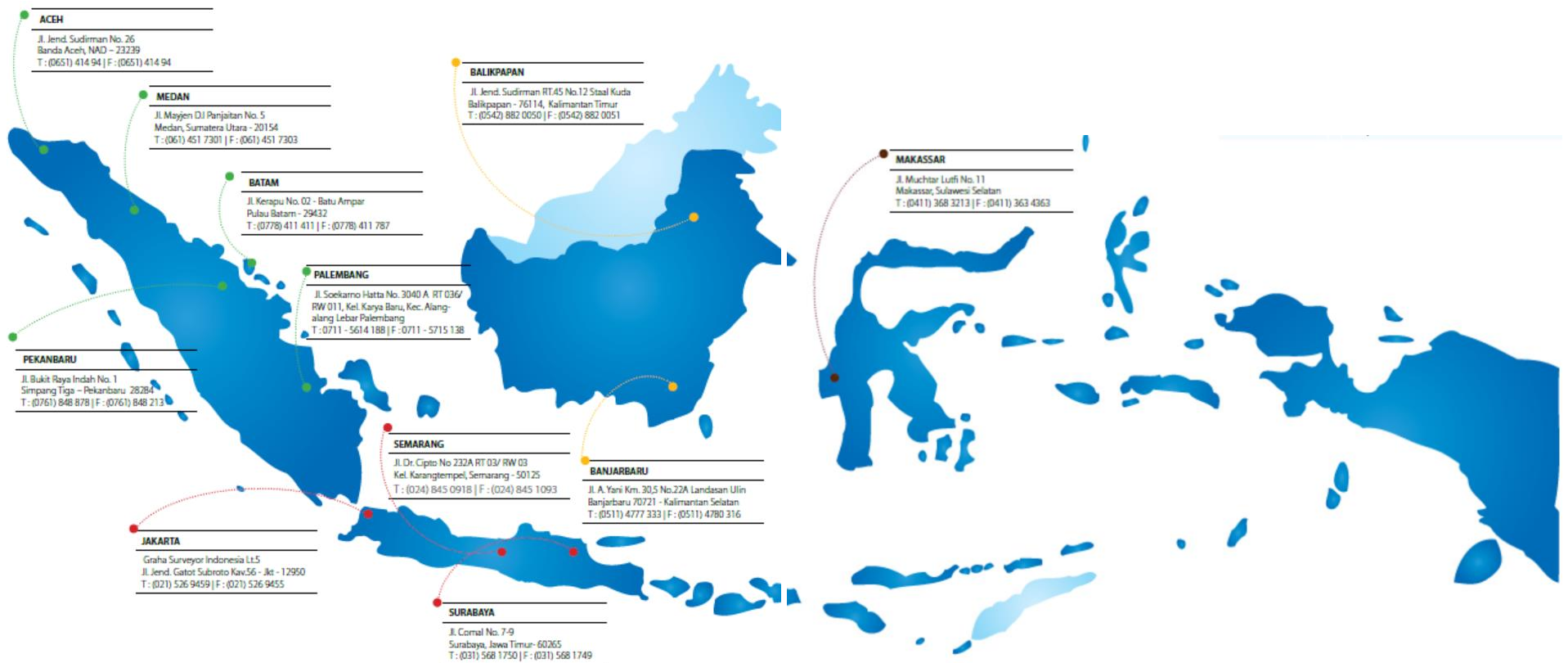


Figure 2. 8. Subsidiaries and Branch Offices/Representative Offices of PT Surveyor Indonesia.

Source: PT Surveyor Indonesia (2019).

So that PT SI can gain market share from its business sectors and realize the vision of, “to become a national *independent assurance* company that is recognized by the world in providing comprehensive solutions to customers”, PT SI management developed 2 (two) significant strategic policies, namely the strategy for strengthening core competencies and product differentiation strategies, which can be described as follows:

The first strategy, strengthening core competencies, is closely linked to increasing PT SI's capacity and capability, both in terms of the services provided, the operational and production processes carried out, and the control of the TIC market. PT SI has developed several things related to strengthening core competencies, including:

- Increased value-added services have become the business's *backbone*.
- For similar services, a new market acquisition strategy is being developed.
- Increasing the human capital's competence.
- Increased spending on operating equipment and supporting laboratories and personnel to assist with work implementation.
- Accreditation of systems, business licensing, and strategic alliances
- Consistently improving service quality through *Quality Control (QC)/Quality Assurance (QA)*.
- Using Information Technology (IT) to its full potential in business processes and service development.

The second strategy, namely product differentiation, was taken as part of PT SI's desire to become a business actor in the TIC industry with products and services that are different from other business actors in the TIC industry. PT SI has developed several things related to product differentiation, including:

- The development of new products that provide a significant revenue contribution provides good margins, provides added value for PT SI, and a future sustainable impact.
- Potential market development for new products to be developed.
- Investing in high-quality operating equipment and laboratory investments to support the development of new products to strengthen PT SI's infrastructure.

PT SI achieved significant accomplishments and successes in 2018 thanks to developing a focus on these two strategies. From IDR 1.02 trillion in 2017 to IDR 1.24 trillion in 2018, service business revenues increased by 21.34%. After the share of joint operating profit, the gross profit increased by 11.77%, from Rp 454.07 billion in 2017 to Rp 507.50 billion in 2018. Similarly, the year's net profit increased by 23.65%, from Rp 109.96 billion in 2017 to Rp 135.98 billion in 2018. Meanwhile, net profit for the year attributable to the parent entity also increased by 25.75%, from Rp 109.29 billion in 2017 to Rp 137.43 billion in 2018. The complete financial performance of PT SI in the 2014-2019 period is presented in Figure 2.9. as follows:





Figure 2. 9. Financial Highlight of PT Surveyor Indonesia for the period 2014-2018.

Source: PT Surveyor Indonesia (2019).

PT SI's Human Resources (HR) competence is its principal capital as a business entity engaged in the TIC service industry because HR management is the key to PT SI's success in achieving the declared targets, visions, and missions. In order to provide credible TIC services, PT SI's human resources must meet specific qualifications, both in terms of technical ability and integrity. Customers' loyalty and trust in the services provided by PT SI reflect this excellent qualification. On the other hand, this principle capital becomes a challenge, particularly in developing HR competencies to push PT SI

to a higher level. For this reason, PT SI seeks to encourage the formation of a solid work team that can fuse various sectoral egos that generally occur in an organization. The team has shifted its focus from "work unit achievement" to "PT SI's overall achievement," which will serve as the foundation for PT SI's ability to provide *excellent assurance* services while meeting customer expectations.

B. Conceptual Framework

The conceptual framework is a crucial factor in any field of research because it serves as a structure that directs researchers in terms of questions, measurement methods, and analysis of research variables. Simultaneously, it becomes the foundation for comprehending causal patterns or interconnection correlations among various events, ideas, observations, concepts, knowledge, interpretations, and other aspects of experience. This explanation means that the conceptual framework is closely related to the data, analysis, authenticity, credibility, accuracy, and representativeness of the selected documents. Guntur explains:

“The conceptual framework is a network, namely interrelated concepts that together provide a comprehensive understanding of a phenomenon or several phenomena or a set of interrelated ideas (theories) or a system of concepts, assumptions, expectations, beliefs, and theories. that supports and informs research or tentative theories about what phenomena are and why they occur or how to look at problems in an integrated manner or a result of various concepts or a set of related concepts or models of relations between variables that imply a certain theoretical perspective to describe the phenomenon” (Guntur, 2019, pp. 103-104).

Researchers employ the conceptual framework because the existing theory is inapplicable and deemed insufficient in constructing a research structure, necessitating the use of the conceptual framework to connect various concepts and serve as a catalyst for the formulation of theories. The concepts used come from a variety of relevant libraries (theories), which are then further synthesized by researchers, presented in graphic form, with explanations of constructs or variables of the research topic and their relationship via arrows.

Figure 2.10 depicts the conceptual framework of this research, which is based on the research background, problem statement, and theoretical basis.

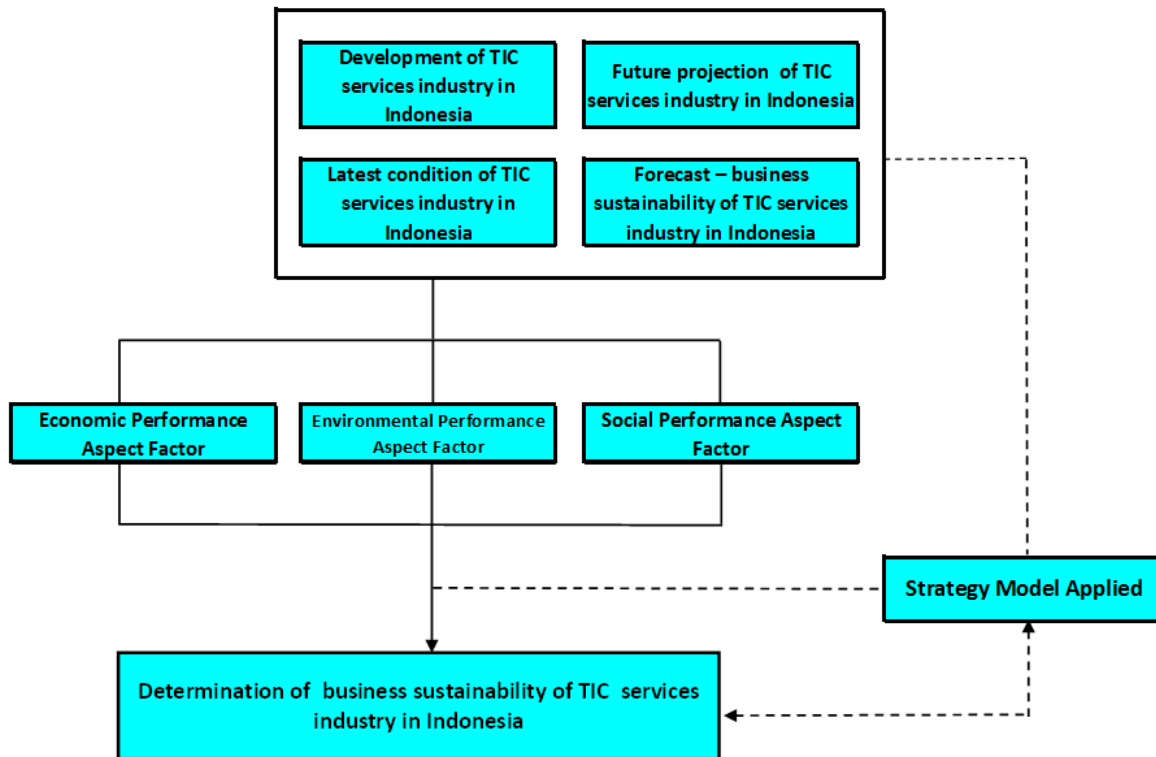


Figure 2. 10. Conceptual Framework on the Determination of the Business Sustainability of TIC Services Industry in Indonesia.

Figure 2.10 is illustrated. The firm arrow can be defined as an aspect of economic, environmental, and social performance that is used to determine the factors that influence the business sustainability of the TIC service industry in Indonesia, taking into account *historical*, current conditions, future projections, and *forecasts* of business sustainability of the TIC service industry in Indonesia. Meanwhile, the dotted arrow represents a strategic model that will be developed and applied to ensure the long-term viability of the TIC service industry in Indonesia.

CHAPTER III

RESEARCH METHODOLOGY

A. Research Approach

This research took a qualitative exploratory case research approach because the subject, object, and nature of the research have unique characteristics that prevent it from being approached using statistical methods. Exploratory means learning more about a situation and then formulating a hypothesis. In terms of qualitative research, Creswell states that:

"Qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures; collecting data in the participants' setting; analyzing the data inductively, building from particulars to general themes; and making interpretations of the meaning of data. The final written report has a flexible writing structure" (Creswell, 2014, pp. 246-247).

In addition, Sugiyono stated:

"Qualitative research methods can be interpreted as research methods based on the philosophy of postpositivism, used to examine the condition of natural objects (as opposed to experiments), where the researcher is the key instrument, data collection techniques are carried out by triangulation (a combination of), data analysis is inductive/qualitative. Qualitative research emphasizes understanding the meaning and construction phenomena rather than generalizations" (Sugiyono, 2018, p. 26).

Meanwhile, case studies are a type of qualitative research that entails gathering information from various sources to investigate a specific case in greater depth. A case research, according to Creswell, is an investigation of *bounded systems* or cases (Creswell, 2007, p. 73). A case research, according to Patton, is a research of the specificity and complexity of a single case to understand the case in a specific context, situation, and time (Patton, 2002, p. 297). Case studies are widely used in business science and community planning and are used to find answers and new ideas in responding to a specific problem or case that is currently occurring or will occur. They aim to look at a case as a whole to find its specifics and are used to find answers and new ideas in responding to a specific problem or case that is currently occurring or will occur.

Researchers who use case studies are expected to be able to capture the complexity of a single, specific case, understand it thoroughly, and then provide helpful input to society, organizations, and even the government. The preparation of a case research, according to Patton, took place in three stages (Patton, 2002, p. 450). The first step is to gather raw data about the organization, such as the incident scene, which will be used to write a case research. The second step involves compiling or organizing the cases that have been obtained through compaction, summarizing the data that is still in the form of raw data, classifying, editing, and incorporating it into a single *manageable* and *accessible* document. The third step is to write a case research research final report in the form of a narrative, which can be presented chronologically, thematically, or both, and in which the writing and description must be able to capture the essence as well as the meaning of the case under research, easing the process of understanding its specificity.

B. Research Population, Sample, Instruments and Data Collection Techniques

Referring to what was said by Sugiyono, that:

“Qualitative research does not use the term population, because qualitative research departs from some instances that exist in certain social situations, and the results of the research will not be applied to the population but transferred to other places in social situations that have similarities with the social situation in the case being studied. Samples in qualitative research are not called respondents but as resource persons, or participants, informants, friends, and teachers in research. The sample in qualitative research is also not called a statistical sample but a theoretical sample because the purpose of qualitative research is to generate theory. The sample in qualitative research is also referred to as a constructive sample because, with the data source from the sample, it is possible to construct phenomena that were not clear at first.” (Sugiyono, Metode Penelitian Bisnis: Pendekatan Kuantitatif, Kualitatif, Kombinasi, dan R&D, 2018, pp. 444-445).

The generalization model of qualitative research can be described in Figure 3.1 to emphasize this *statement*. Because the samples were not taken at random but rather on purpose, the research's findings cannot be applied to the general population, which is chosen based on specific considerations and objectives, so the findings of this qualitative research are limited to

cases of specific social situations and can be transferred or applied to other social situations (other places) if they are similar or identical to the social situation under research.

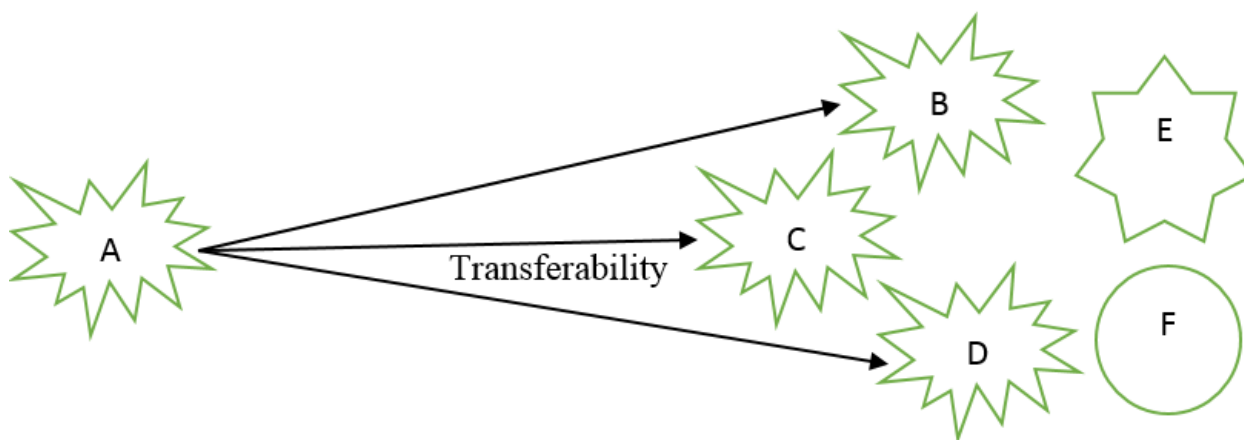


Figure 3. 1. Qualitative research generalization model. A purposive sample, the results from A can be transferred only to B, C, D.

Source: Sugiyono (2018).

This research focused on natural objects, specifically three member companies of the SOE holding in the TIC service industry in Indonesia, namely PT Biro Statistik Indonesia (PT BKI), PT Surveyor Indonesia (PT SI), and PT Superintending Company of Indonesia (PT Sucofindo). The Board of Directors, Vice President, and senior managers are the informants or participants, and they are chosen through *purposive sampling* based on credibility and *information richness* in the form of perceptions, opinions, feelings, experiences, and knowledge. The purposive sample specifications in this qualitative research, as proposed by Lincoln and Guba, cannot be determined ahead of time, with the following special characteristics: *Emergent sampling design/temporary nature*; *Serial selection of sample units/rolling like a snowball*; *Continuous adjustment or focusing of the sample/adjusted as needed*; *Selection to the point of redundancy/selected until it is saturated or does not provide new data anymore* (Lincoln & Guba, 1985, pp. 201-202). Furthermore, the sample was chosen as a data source or as an informant because it met the following criteria:

- Those who master or comprehend something through the enculturation process so that it is not only known but also lived.

- Those who are still involved or involved in the research activity.
- Those who have enough time to be questioned.
- Those who are not inclined to convey information “packaged” themselves.
- Those who were initially classified as “quite foreign” to the researcher to make becoming a kind of teacher or resource person more exciting.

Overall, the data collection technique is through various methods (*triangulation*), namely a combination of *participant* observation, *in-depth interviews*, and documentation, where the research instrument is the researcher himself. In this case, the researcher becomes a *human instrument* whose function is to determine the focus of the research, select informants as data sources, collect and assess data quality, analyze and interpret data, and draw conclusions from their findings. And according to Lincoln and Guba's statement in Sugiyono:

"The instrument of choice in naturalistic inquiry is the human. We shall see that other forms of instrumentation may be used in later phases of the inquiry, but the human is the initial and continuing mainstay. But if the human instrument has been used extensively in earlier stages of inquiry, so that an instrument can be constructed that is grounded in the data that the human instrument has product" (Sugiyono, Metode Penelitian Bisnis: Pendekatan Kuantitatif, Kualitatif, Kombinasi, dan R&D, 2018, p. 453).

Moreover, this is backed up by Nasution in Sugiyono, who says:

"There is no other choice in qualitative research that makes humans the primary research instrument, and everything does not yet have a definite form. Problems, research focus, procedures, hypotheses used, and even the expected results cannot be determined beforehand with certainty and clarity. Everything that still needs to be developed throughout the research. In a situation that is entirely uncertain and unclear, there is no other choice, and only the researcher himself is the only tool that can achieve it" (Sugiyono, Metode Penelitian Bisnis: Pendekatan Kuantitatif, Kualitatif, Kombinasi, dan R&D, 2018, p. 454).

Based on these two statements, the first instrument was the researcher himself to the point where the research problem's focus became clear and definite. Then it is possible to create a simple research instrument that will be able to fill in the gaps in the data, which can then be compared to the data gathered through observation and interviews.

The background to using triangulation techniques at the data collection stage of this research is that no single data collection method is very suitable and can be completely perfect. As stated by Marshall and Rossman in Sugiyono, “*The fundamental methods relied on by qualitative researchers for gathering information are, participation in the setting, direct observation, in-depth interviewing, document review*” (Sugiyono, *Metode Penelitian Bisnis: Pendekatan Kuantitatif, Kualitatif, Kombinasi, dan R&D*, 2018, p. 457). Furthermore, qualitative research necessitates the researcher's expertise, skills, and knowledge, which must be applied systematically and diligently rather than simply being present at the research site or having brief discussions with participants. In other words, the researcher's credibility will be heavily relied upon, so the researcher's involvement must be of high quality, both in terms of understanding the existing context and the duration of involvement (*exposure*) that is sufficient to comprehend the state of the research site fully. Text, photos, videos, stories, images, and *artefacts* are examples of research data that are collected when the research's direction and objectives are clear, as well as when the data sources, namely informants or participants, have been identified, contacted, and given their permission to provide the information needed.

C. Data Analysis Techniques

1. Qualitative data analysis from the interactive model of *Miles & Huberman*

Qualitative data analysis techniques will be carried out by searching and organizing data systematically from the results of field observations, interview transcripts, and documentation to increase the researcher's understanding of the cases studied and present them as research findings, using an interactive model from Miles & Huberman (Miles, Huberman, & Saldaña, 2014, p. 14), as shown in figure 3.2.

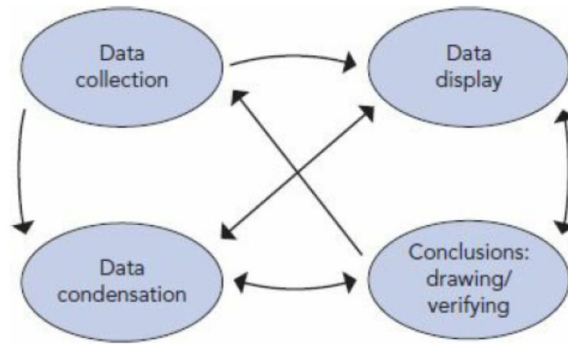


Figure 3. 2. Qualitative Data Analysis Technique with Interactive Model by Miles & Huberman.

Source : Miles, Huberman, & Saldaña (2014).

The analysis phases in this research concerning the interactive model above are as follows:

a. Data gathering (*data collection*).

Gather all data from the research, including field observations, interview transcripts / recordings, and documentation.

b. Data compression (*data reduction*).

Because the data obtained is quite large, it must be carefully and thoroughly recorded. The longer one spends in the field, the more complex and complicated the data becomes. As a result, it is necessary to analyze the data using data reduction techniques. Summarizing, choosing the essential things, focusing on the most important things, and looking for themes and patterns are all examples of data reduction. As a result, the reduced data will provide a clearer picture and make it easier for researchers to collect additional data. Data reduction was carried out continuously throughout the research process until a complete and detailed report was compiled.

c. Data presentation (*data display*).

After the data has been reduced, the next step is to present the data, which involves organizing and arranging it in a relationship pattern to make it easier to understand. This data is presented as structured information in the form of a narrative or a collection of sentences, allowing for the possibility of drawing conclusions and taking action. This data is prepared to make it easier for researchers to understand what is going on and what

they should do and see a bigger picture of certain aspects of the research to conclude the data.

d. Draw Conclusion/Verification

As a research activity, concluding the entire configuration. Verification is a rethinking activity that occurs in the analyst's mind while taking notes, or a review of field notes or a review, as well as an exchange of ideas among colleagues to develop an “intersubjective” agreement. In other words, the meaning that emerges from the data is then tested for its correctness, robustness and suitability (validation). Verification is carried out continuously throughout the research process in this research. Verification by researchers aims to analyze and make sense of the data gathered by looking for themes, relationship patterns, arising problems, hypotheses, and tentative conclusions to form certain propositions that can support or refine the theory. In summary, the data collected through field observations, interviews, and documentation will be presented and then noted for relevance to the research question. After going through data reduction or directly verifying, the data from each research question is interpreted and combined to obtain complete and complete research results.

2. Validity data test.

The sharpness of the researcher's analysis in presenting data does not necessarily make the research findings accurate and have a high level of confidence. To get the trust or truth of the research results, it is necessary to check the validity (*trustworthiness*) of the data. In practice, the process of data analysis and testing the validity of qualitative data can be carried out simultaneously with the data collection process or after the completion of data collection, hoping to obtain credible qualitative data.

According to Moleong's opinion, the technique for examining the validity of qualitative research data uses four criteria: degree of trust (*credibility*), *transferability*, *dependability*, and certainty (*confirmability*) (Moleong, 2016, p. 324).

The four criteria can be explained in more detail as follows:

a. Degree of trustworthiness (*credibility*)

The degree of trustworthiness concept essentially replaces the concept of internal validation from non-qualitative. The data credibility test, or the degree of

trustworthiness of qualitative research data, according to Sugiyono, was carried out in several ways (Sugiyono, *Metode Penelitian Bisnis: Pendekatan Kuantitatif, Kualitatif, Kombinasi, dan R&D*, 2018, pp. 514-522):

1) Participation/observation will be extended

The researcher returns to the field, makes observations, and conducts interviews with previously encountered and new data sources as part of the observation extension. With the extension of this observation, the researcher's relationship with the resource persons will become more intimate, open, and mutually trusting so that no information will be hidden. If the report card has been created, the research has been conducted fairly, with the researcher's presence no longer interfering with the behaviour being studied. The data's depth, breadth, and certainty will determine how long this observation will be extended. It is focused on testing the data that has been obtained, whether the data obtained after being checked back in the field is correct or not, changed or not, in the extension of observations to test the credibility of this research data. If the data is correct, meaning credible, the observation extension period can be ended after returning to the field.

2) Improves observation persistence

Improves observation persistence entails making more careful and continuous observations. In this way, the certainty of the data and the sequence of events will be recorded certainly and systematically. By increasing the persistence of observations, the researcher can double-check whether the data found is correct and provide an accurate and systematic description of what was observed, thereby increasing the data's credibility.

3) Triangulation

Triangulation in credibility testing is defined as checking data from various sources in various ways and at various times. As a result, there is source triangulation, data collection technique triangulation, and time triangulation.

a) Triangulation of the source

Testing the data's credibility entails comparing information obtained from various sources. The information gathered was then described and categorized based on

the information gleaned from these various sources. Researchers will separate the same data from the different data for further analysis.

b) Triangulation of techniques

This test compares data from different sources using different techniques, such as observations, interviews, or documentation. If the results are inconsistent, the researcher double-checks the data source to ensure that the data is accurate.

c) Triangulation of time

Resource persons who met at the initial meeting can provide different information at the next meeting. As a result, it is necessary to check multiple times to find more reliable data.

4) Peer reviews through discussion

This step is taken to elicit criticism, pointed questions, and those that cast doubt on the accuracy of the research findings.

5) Negative case analysis

Negative cases do not match or differ from the research results up to a certain point in time. Conducting a negative case analysis means that the researcher looks for data that is different or even contradicts the data that has been found. If there is no more data that contradicts or differs from the findings, the data found is reliable. However, if the researcher continues to receive data that contradicts what he has found, he may change his conclusions. The size of the negative cases has a big impact on this change.

6) Using the reference materials (referential adequacy)

What is meant by reference material here is the existence of supporters to prove the data that the researcher has found. For example, data from interviews need to be supported by the existence of interview recordings so that the data obtained are credible or more reliable. As a result, this research will use interview recordings and photos from field observations and documentation as reference materials.

7) Member verification (holding *membercheck*)

Comparing the data obtained by the researcher to the data provider is known as a *membercheck*. The goal of *membercheck* is to see how closely the data obtained

matches what the data provider has provided; if the data found is then agreed upon by the data providers, the data is valid, making it more credible/trustworthy. However, if the data provider does not accept the researcher's findings and various interpretations, the researcher must discuss them with the data provider. If the disparity is significant, the researcher must revise his findings and adapt to the data provider's data. After a data collection period is complete, or after obtaining a finding or conclusion, *memberchecks* can be implemented. After everyone has agreed on the data, the data givers are asked to sign it to make it more authentic. Furthermore, it is proof that the researcher conducted a *membercheck*.

b. *Transferability*

The value derived from qualitative research findings is not universal, but it can be applied if the context and situation are similar to the research object. Testing *transferability* is necessary to provide a detailed, clear, and systematic description of the research findings that readers can trust. As a result, generalizations can be avoided because the reader understands the complexities of the data obtained in the research. The reader will be wise to apply the research results following contexts and situations identical to the research in question.

In order for other people to understand the results of qualitative research and to be able to apply the research findings, the researcher must provide a detailed, clear, systematic, and reliable description in his report. As a result, the reader gains a clear understanding of the research findings, allowing them to determine whether or not the findings can be applied elsewhere. The transferability standard is met when the reader of a research report understands “what kind” of research results can be applied (*transferability*).

c. Dependency (*dependability*).

Furthermore, *dependability* testing is required to uncover the entire series of research. Independent auditors typically conduct this test in qualitative research to obtain an objective picture of the research process carried out by researchers when determining problems, entering the field, determining data sources, conducting data analysis, testing data validity, and finding research results.

If the researcher can be responsible and systematically describe the entire series of research that has been done, the research's *dependability* will not be questioned. As a result, if the researcher does not have and cannot show a “trace of field activity,” the research's dependability should be questioned.

d. Certainty (*confirmability*).

A process plays an important role in qualitative research in determining research outcomes. The process in question determines the research's direction and movement. This process is also linked to the need for *confirmability* in qualitative research. *Confirmability* testing entails evaluating the research findings concerning the process used. The research has met the *confirmability* criterion if the results are a function of the research process used.

Because the researcher is the primary instrument in qualitative research, combining the criteria of dependence and certainty is necessary to ensure the research results' dependability and certainty. *Confirmability* and *dependability* are similar in qualitative research so that tests can be run simultaneously.

3. Further analysis of the qualitative research data used the (*software*) QSR NVivo 12 Plus

Subjectivity (*researcher-biased*) and reactivity are two of the most significant validity challenges for qualitative researchers. Regarding subjectivity, it is difficult for researchers to avoid the fact that they already have their ideas about research problems based on *prior knowledge*, particularly knowledge gleaned from the literature they have read. When qualitative researchers understand the phenomenon, they may try to adapt it to the data in the field, making these threats more difficult to overcome if the data is analyzed manually.

As a result, the demand for more reliable research instruments, such as computer programs (*software*), will greatly aid researchers in ensuring the validity of qualitative research conducted outside of a research setting. In the sense that research data are collected in the field and can be separated and distinguished based on their source, whether it is from informants/participants, researchers, or *secondary sources* (books, research reports, historical documents, journal articles, website content, online news, conference

proceedings, memos, field notes, bibliographic annotations, and even researchers' daily journals stored in computer programs).

In general, the qualitative data analysis process is the same, whether done manually or with the aid of a computer program (*software*). The researcher identifies the text or image segment, assigns a code label, searches the database for all texts with the same code label, and creates a printout segment of these text segments for the code. Because the computer program only provided the means to store data and easily access the codes provided by the researcher, the researcher did the coding and categorization. However, using a computer program would be very helpful when working with large databases. For example, 500 pages of text or more are also useful for small databases.

For some researchers, computer programs act as a barrier between them and the actual data, resulting in a disconcerting disconnect between them and the data they are trying to research. Even though not all qualitative researchers are interested in using computer programs, there are several benefits to doing so, including:

- The computer program provides an organized file storage system so that researchers can quickly and easily find material and store it in one place, which is critical when all cases or several cases with similar characteristics must be found.
- Computer programs make the *coding* process on text or images related to the theme easier for researchers by labelling them in the form of codes, using words from participants, scientific terms, or terms that appear to be related to the situation.
- As long as the material is already stored in the database, computer programs can help researchers find material quickly, whether it is in the form of ideas, statements, phrases, words, categories, codes, or themes, without having to “*cut and paste*” the material in files, sort the files back by theme, or create a system “colour code” for the text concerning the theme.
- Computer programs encourage researchers to look at data more closely, even line by line, and consider the meaning of each sentence or idea, whereas without a computer program, researchers are more likely to skim (rather than analyze) the text or transcription.

- Equally important, the computer program can compare code/theme/category labels, search the database for relationships between these codes/themes/categories, and help researchers visualize them by drawing a visual model using the concept-mapping feature that is already available.

Since the 1980s, qualitative computer programs have been available, and they are getting better at automating the process of analyzing text and image data. In this research, researchers will use QSR NVivo 12 Plus, the most recent version of QSR International *software* released at the end of March 2018, to assist researchers in non-numeric data management and analysis by managing, forming, and analyzing additional qualitative data. This software is equipped with security features for storing databases and shared files in a single file, which can be operated in various international languages, thanks to its efficient and *user-friendly* interface (English, Chinese, French, German, Japanese, Portuguese, Spanish). This *software* also includes a *merge* function for collaborative research and allows researchers to manipulate data, conduct searches easily, and graphically display codes and categories.

QSR NVivo 12 Plus, in particular, can manage and analyze text data, code text data, determine themes and sub-themes based on text data, create descriptions of all participant demographic data, and conduct text content analysis using *text search*. Furthermore, using *word frequency queries*, this software can quickly identify the most common words in the data and present the data analysis results in graphs, tree diagrams, and comparison diagrams of themes based on the participants' backgrounds. Other things that can be done using this software include entering articles or references from *reference management software* such as EndNote and Mendeley, transferring field notes from *note-taking software* such as Evernote, including making field notes or bibliographic annotations using the Memos and Annotations feature.

Additionally, the *software* can input and analyze photos, images, videos, email data, qualitative data stored in Excel and SPSS, data obtained through online surveys such as Survey Monkey, data obtained from news or reports contained in websites (*website content*), as well as a collection of information from social media sites such as Facebook, Twitter, and LinkedIn, and even online videos from YouTube.

In the context of the *qualitative analysis framework*, QSR NVivo 12 Plus can perform automatic coding, comparative analysis through *matrix coding*, and relationship analysis based on coding results, such as visualizing associative and one-to-one relationships. *One-way* relationship and symmetrical relationship This includes creating hierarchical visualizations, *geovisualization*, cluster analysis, and even *mind (or concept or project) mapping* to present data analysis results using the various graphs and models included in this version. Another advantage is that due to the availability of special features for transcription needs that are integrated, easy, and efficient, the transcription process of interview results, both in the form of audio and video files, can be done directly in the QSR NVivo 12 Plus.

CHAPTER IV
RESEARCH RESULT

A. Demographic Information of Informants/Participants

Table 4. 1. Informant/Participant Demographic Information.

Identity	Years of Age	Gender	Educational Qualification	Years of Experience	TIC Sector
Informant/Participant 1	53	Male	Master's degree in Ocean Engineering	28	TIC for Ship Classification and Statutory
Informant/Participant 2	50	Male	Master's degree in Management	27	General TIC
Informant/Participant 3	55	Male	Bachelor's degree in Economics	30	TIC for Coal Verification
Informant/Participant 4	53	Male	Doctoral degree in Environmental Engineering	30	General TIC
Informant/Participant 5	54	Male	Master's degree in Management & Business	30	General TIC
Informant/Participant 6	56	Male	Bachelor's degree in Mining Engineering	32	TIC for Mining & Mineral Verification
Informant/Participant 7	39	Male	Master's degree in Management	21	TIC for Mining & Mineral Verification
Informant/Participant 8	49	Male	Bachelor's degree in Environmental Engineering	26	TIC for Certification and Eco-Framework

B. Presentation of Research Data, Analysis and Discussion

1. The *historical* of the TIC service industry in Indonesia

The TIC service industry has existed worldwide for more than a century, but in Indonesia, it has only existed for 60 years. It is divided into three periods, each marked by the government of the Republic of Indonesia's assignment of ATE (Export Management Application) to ensure the smooth flow of goods and secure the country's foreign exchange in the import-export trade, which began in 1985 and ended in 2001.

During the pre-ATE period, which began in 1985, the Indonesian TIC service industry's business sector was limited to bulk agricultural commodity inspection (pre-containerization). After the implementation of global *shipping containers*, the *scope* of services expanded to include *marine* and *insurance survey* services, warehousing, technical services, asset valuation, and inspections of industrial/manufacturing products and consumer products. Government assignments through inspection of export goods carried out by exporters utilizing the exemption or return of import duty facilities with the output of the Export Surveyor Inspection Report dominated the income of the Indonesian TIC service industry during the second period, namely the ATE period 1985–2001. During this time, the Indonesian TIC service industry began to develop analysis and laboratory testing services by replacing *powerhouse computers* with *personal computers* and *mini servers*. The third period, namely the post-ATE period after 2001, in which the proportion of Indonesian TIC service industry revenues from government assignments decreased. The Indonesian TIC service industry is capitalizing on this momentum by developing system certification services, training services, audit services, and environmental laboratory testing in response to the growing global focus on environmental issues and laboratory services related to product testing and certification in response to demand. SNI's application (Indonesian National Standard). Since 2007, the government of the Republic of Indonesia has reassigned the Indonesian TIC service industry to import verification/technical tracing activities, which have continued to this day and contributed significantly to operating profit. The development of information and communication technology, such as *GSM (Global System for Mobile Communications)*, *CDMA (Code Division Multiple Access)*, touch screens, and the internet,

changed the model and business practice of the Indonesian TIC service industry as a whole during this period.

Except for a few sub-portfolios due to regulatory changes, the Indonesian TIC service industry has *survived* and has not experienced a slump from a macro and micro perspective. This good survival rate is demonstrated by the fact that no large TIC companies have closed due to three major crises that have hit Indonesia, namely the 1998 monetary crisis, the 2008 global recession, and the most recent pandemic, Covid-19. Compared to the ASEAN regional and global TIC service industries, the Indonesian TIC service industry consistently experienced revenue growth with a *CAGR (Compound Annual Growth Rate)* of 6.6% for the last six years (2015-2020). It was able to record a fairly good profit, excluding the results of KSO and subsidiaries, despite a high level of *Capex (Capital Expenditure)* and *Opex (Operating Expenditure)*.




The ecosystem of Indonesia's TIC service industry is undeniably dependent on regulation and the application of standards. One of them is when the Minister of Trade of the Republic of Indonesia issued Regulation No. 04/M-DAG/PER/1/2014 concerning Provisions on Exports of Processed and Refined Mining Products in 2014, which regulates the prohibition of exports of raw minerals, particularly main commodities like nickel ore, bauxite, and copper concentrates, causing the TIC service industry to suffer. Due to a decrease in the volume of demand for mineral export verification services, Indonesia's *TIC for Mining & Mineral Verification* sector is experiencing severe business pressure, which significantly impacts its financial performance. Furthermore, the implementation of this regulation had a cascading negative impact on other TIC service industry sectors in Indonesia, namely *TIC for Ship Classification and Statutory*. Particularly in terms of receivables collectibility, as a result of the debtor's financial capacity deteriorating due to the large number of ships that are unable to operate due to the ban on the export of raw minerals. Furthermore, the survey service activities were immediately boosted by the high market competition of business actors in the TIC service industry in Indonesia when they were issued from the Negative Investment List (DNI), as stipulated in the Presidential Regulation of the Republic of Indonesia No. 44 of 2016 concerning the List of Closed Business Fields

and Open Business Fields with Requirements in the Investment Sector. The invasion of global surveyors, as well as the national private sector.

2. The current condition of the TIC service industry in Indonesia.

Since 2017, there have been anomalous symptoms in the form of *discrepancies* between Indonesia's macro-economic data, namely GDP growth, and microdata/surveys in the retail market, where the positive macro-economic trend is not in line with micro conditions at the retail level, due to, among other things, conglomeration, *online shopping*, and the focus of large government spending on the infrastructure sector. The facts show that Indonesia's economic growth in the third quarter of 2017 was quite good, at 5.01%, but the retail market was weakening simultaneously, as evidenced by a 1.2% drop in national cement consumption in the first semester (*year on year*). During Eid al-Fitr 2017, clothing sales fell 15%, and the vacancy rate for offices in the urban centre area, particularly the CBD (*Central Business District*), increased by 18.4%. Suppose more detailed indicators in the TIC service industry sectors are used. In that case, Indonesia's national income data for the 2015-2019 period released by the BPS (Central Bureau of Statistics) of the Republic of Indonesia shows that *manufacturing* and wholesale trade, as well as retail, contribute the most. However, revenue from the TIC service industry is dominated by transportation, Petrol and Gas, coal, and mining. Table 4.2 shows the contribution of three member companies of the Indonesian survey service SOE holding over the 2015-2019 period, as a slice of the top 5 sectors with the highest income contribution.

Table 4. 2. Slice of Top 5 Sectors with the Highest Revenue Contribution 2015-2019.

PT SI		PT SUCOFINDO		PT BKI	
					
1. Coal & Mining	24,2%	1. Coal & Mining	28,4%	1. Transportation	65,2%
2. Government & Institutions	22,1%	2. Oil & Gas	27,8%	2. Oil & Gas	15,5%
3. Oil & Gas	20,6%	3. Government & Institutions	13,3%	3. Industrial	10,6%
4. Power & Utilities	12,7%	4. Power & Utilities	10,7%	4. Building & Infrastructure	4,2%
5. Building & Infrastructure	11,0%	5. Consumer Products & Retail	6,2%	5. Coal & Mining	1,5%

Source : Ministry of State-Owned Enterprises of the Republic of Indonesia & Ministry of Finance of the Republic of Indonesia (2020).

The Indonesian TIC service industry has received global recognition in its development accreditation, certification, authorization, and association membership. Some of them are as follows:

- Accreditation, certification, authorization
 - *Federations of Oils, Seeds and Fats Association (FOSFA)* – United Kingdom
 - *International Laboratory Accreditation Commission (ILAC)*
 - *United State Consumer Product Safety Commision (US-CPSC)*
 - *International Eletrotechnical Commission for Electrical Equipment (IECEE)*
 - *National Association of Testing Authorities (NATA)* – Australia
 - *Quality Assurance Services (QAS)* – Australia
 - National Standardization Agency (BSN) in the form of accreditation of SNI ISO/IEC 17021 : 2011; SNI ISO/IEC 17065 : 2012
 - National Accreditation Committee (KAN) in the form of accreditation of ISO/IEC 17020; ISO/IEC 17025; ISO 9001; ISO 14001
 - Occupational Health & Safety Management System Certification in the form of *Occupational Health and Safety Assessment Series (OHSAS 18001)*, and SMK3 from the Ministry of Manpower, Government of the Republic of Indonesia
 - Lembaga Ekolabel Indonesia (*Indonesian Ecolabelling Institute*)
 - Product Certification Agency (LSPRO)

- Authorization of *statutory* from Directorate General of Sea Transportation – Ministry of Transportation (government of the Republic of Indonesia) and the *Mongolia Maritime Administration (Government of Mongolia)*
- Authorization of ship classification service activities from:
 - ❖ *American Bureau of Shipping (ABS-USA)*
 - ❖ *Bureau Veritas (BV-France)*
 - ❖ *China Classification Society (CCS-China)*
 - ❖ *Det Norske Veritas (DnV-Norway)*
 - ❖ *Germanischer Lloyd (GL-Germany)*
 - ❖ *Hellenic Register of Shipping (HRS-Greece)*
 - ❖ *Indian Register of Shipping (IRS-Indian)*
 - ❖ *International Register of Shipping (IRS)*
 - ❖ *Korean Register of Shipping (KRS)*
 - ❖ *Korean Classification Society DPR of Korea*
 - ❖ *Lloyd's Register of Shipping (LR-UK)*
 - ❖ *Nippon Kaiji Kyokai (NK-Japan)*
 - ❖ *Rinave Portuguesa (Portugal)*
 - ❖ *Ships Classification Malaysia (SCM-Malaysia)*
 - ❖ *China Cooperation of Shipping (CCS)*
 - ❖ *Vietnam Register (VR-Vietnam)*
 - ❖ *Italian Register of Shipping (RINA)*
- Association Membership
 - Regional dan Internasional
 - ❖ *International Federation of Inspection Agencies (IFIA)*
 - ❖ *Grains and Feed Trade Association (GAFTA) - United Kingdom*
 - ❖ *Sugar Association of London - United Kingdom*
 - ❖ *ASEAN Vegetable Oil Club (AVOC) - Malaysia*
 - ❖ *International Federation of Organic Agriculture Movements (IFOAM) – Germany*
 - ❖ *National Institute of Oil Seed Product (NIOP) – United State of America*

- ❖ *Liverpool Cotton Association (LCA)* - United Kingdom
- ❖ *American Society for Non-destructive Testing (ASNT)* – United State of America
- ❖ *Asian Classification Society (ACS)*
- National
 - ❖ *Indonesian Corrosion Association*
 - ❖ *Indonesian Mining Association (IMA)*
 - ❖ Indonesian Oil, Gas and Geothermal Drilling Companies Association (APMI)
 - ❖ Geospatial Information and Mapping Survey Companies Association (APSPIG)
 - ❖ Indonesian Independent Surveyors Association (AIS)
 - ❖ Indonesian Independent Tally Association
 - ❖ Indonesian Pest Control Companies Association (ASPPHAMI)
 - ❖ Indonesian Technical Inspection Companies Association (APITINDO)
 - ❖ Indonesian Mining Association (IMA)
 - ❖ Indonesian General Mining Services Association (ASPINDO)
 - ❖ Indonesian Petrol and Gas Association (IPA)
 - ❖ Indonesian Certification Bodies Association (ALSI)
 - ❖ Indonesian National Consultants Association (INKINDO)
 - ❖ Indonesian Chamber of Commerce and Industry (KADIN)
 - ❖ Mechanical and Electrical Engineering Companies Association (APTEK)
 - ❖ Indonesian National Construction Executor Association (GAPENSI)

The Covid-19 pandemic, which has afflicted every country on the planet and has lasted for more than two years, from December 2019 to the present, has compelled Indonesia's TIC service industry to accelerate its transition to the Industry 4.0 era. The use of *information technology* (IT) is becoming increasingly dominant in its implementation methodology, which is driven by market demands for digital devices and data exchange, electronic transaction activities, and the development of robotic technology based on *artificial intelligence*. The application of this technology has disrupted the *baseline* practice and business model of the TIC service industry at present and in the future to become more concise and efficient, with minimum social contacts, within the framework of the *sharing economy*. Furthermore, it can stimulate the birth of TIC start-up companies as new players,

which of course, erodes some of the *market share* of the Indonesian TIC service industry, especially the *incumbents*. Indonesia's TIC service industry has begun to oversee the migration process of alternative/new-renewable energy, replacing fossil-based energy, which is becoming increasingly scarce due to massive exploration/exploitation of natural resources. Similarly, the TIC service industry is expected to be able to *support* the Indonesian government's program, where ore sources that could previously be exported directly have been directed to processing or *smelters* in order to obtain higher value (*added value*).

3. Future TIC service industry projections for Indonesia.

In the future, Indonesia's TIC service industry will continue to develop with the advancement of civilization and dynamic market demand, where every business actor in various sectors is still very dependent on aspects of ensuring the products/services used, as well as the need for *compliance* with regulations, regulations, legislation, standards, or consensus that apply nationally, regionally, and globally.

The draft of the *Omnibus Law* on Job Creation provisions, initiated by the vision of the President of the Republic of Indonesia in early 2020, specifically on February 13, 2020, will regulate the renewal of closed business fields. By removing the survey service sector from the Negative Investment List, Indonesia's TIC service industry has become more competitive due to the presence of large international players such as *SGS (Societe Generale de Surveillance)*, *BV (Bureau Veritas)*, *TUV (Technischer Überwachungsverein)*, and the rise of TIC startup companies, particularly in the inspection field.

The Indonesian TIC service industry market still has very potential opportunities in several sectors, including:

- The environmental sector supports the *circular economy and waste management trends*, including risk mapping.
- The Islamic economic sector assures in the context of the halal scheme, including bundling halal tourism services with the Ministry of Tourism & Creative Economy of the Republic of Indonesia's *CHSE (Cleanliness, Health, Safety, and Environment Sustainability)*.
- As a consequence of the discovery of various alternative energies to replace fossil-based energy, the new-renewable energy sector will automatically expand the demand for

verification & certification activities for the use of solar, geothermal, wind, and electric car industry battery.

- The financial sector is linked to *stakeholders' e-warranty* and *e-insurance* requirements.
- Government & investment sector, with the opening of the Negative Investment List, which is strengthened by import reduction policies, through TIC service activities in the form of consulting on the development of government information technology (*e-government*) capabilities, consulting & regional expansion surveys, surveys of manufacturing services, fisheries supervision & management Indonesia, as well as surveys/mapping/consulting/technical guidance related to public services/natural resources/investment.
- The mining sector is undergoing technical verification of the quantity and quality of mineral purification with a low content of REE (*rare earth elements*) to meet domestic and export needs, as long as it meets the minimum limits set out by the Minister of Trade's Regulation No. 96 of 2019 on Provisions for the Export of Mining Products Processing and Purification Results.
- *Marine* services sector in the *scope of TIC for Ship Classification and Statutory* as a concrete effort by the Indonesian TIC service industry to assist the Indonesian government in the implementation of the Maritime Axis & Sea Toll program, which includes 51 maritime spare parts suppliers, 250 shipyards, 1,894 maritime service providers, and 2,866 shipping companies. Given Indonesia's characteristics as an archipelagic country with thousands of islands and a vast marine territorial area, this implementation is critical, as it will lead to the development and strengthening of the national ship industry. As a result, sea transportation facilities become *critical points* that must be managed and maintained for their seaworthiness, ensuring the safety of people, ships, objects/loads, and the marine environment as a whole.
- Development of TIC services in new sectors, particularly *life sciences*, such as the pharmaceutical and medical device industries, through laboratory testing for medical devices, including health standards and services verification.
- Diversification of traditional TIC services, such as agricultural commodity inspection activities, warehousing and collateral management, pest control, and inspection of

industrial commodities and consumer products, which can be modernized, packaged, and combined with technology to provide *added value* to customers.

4. *Forecast* of the business continuity of the TIC service industry in Indonesia

Stakeholders' demands for quality and quantity assurance activities by the Indonesian TIC service industry as a third party are expected to grow in tandem with the industrial world's growth and will continue to be required to meet the minimum required standards. Also, within the framework of *compliance* with national & international regulations/standards and a form of risk mitigation for the transacting parties. All involved are producers-consumers, exporters-importers, *sellers-buyers*, and business actors-regulators. Given the traffic increasingly crowded ships in Indonesian waters, Indonesia, as a member of the *IACS (International Association of Classification Societies)*, will undoubtedly seize this opportunity by targeting foreign-flagged vessels to be classified in the Indonesian classification agency (*TIC for Ship Classification and Statutory*).

The Indonesian TIC service industry must be more *agile* in responding to market needs according to the times and adapting to *business drivers* to maintain business sustainability in an era that is very disruptive and full of *uncertainty*—simultaneously anticipating the rapid advancement of information technology, changes in business models, and the growing use of robotic technology to replace human resources. Furthermore, the long-term viability of Indonesia's TIC service industry business will be determined in large part by its initiatives and capabilities in terms of service development in industrial/business fields where it has not previously focused, such as *cyber security, medical and food labs, agriculture, construction, renewables, aviation, and automotive*. In more detail, based on the 2020-2024 projection, the development of Indonesia's TIC service industry will be focused on the following scope of services:

- Treatment of domestic waste and B3 (Hazardous and Toxic Materials), with a projected annual income of 6.18 - 31.65 billion Rupiah and a 2.5 billion Rupiah investment cost that includes the purchase of waste treatment trial equipment.
- Bio solar *quality assurance/quality control*, with annual revenue estimates ranging from 12.5 to 29.2 billion Rupiah.

- Battery testing for electric vehicles, with an estimated annual revenue of 5.0-30.0 billion Rupiah and an estimated investment cost of 200 million Rupiah, including the purchase of battery testing equipment.
- *EMC (Electromagnetic Compatibility)* testing of digital products, with an estimated annual revenue of 5.0-11.2 billion Rupiah and an estimated investment cost of 15-20 billion Rupiah, which includes the purchase of operating equipment and room-testing.
- *Smart City ISO 37120*, with a projected annual income of 500 million Rupiah and an investment cost of 100 million Rupiah, including *guideline* development, implementation, and assessment costs.
- Telemetry for *Internet of Things (IoT)*-based monitoring, with annual revenue expected to range between 3.04 and 8.16 billion Rupiah.
- Land verification, with an annual income range of 6.91 to 46.39 billion Rupiah.

Furthermore, the Indonesian TIC service industry must be proactive in taking a strategic role in applying the *shared resources/shared economy* concept as a necessity in today's business world, according to business sustainability *forecasts*. Business activities involve all stakeholders who own resources, competencies, and integrated business networks and place them in the *supply-chain* from upstream to downstream to continue to grow and be *sustainable*.

5. Economic performance is used to examine the factors influencing the TIC service industry's business sustainability in Indonesia

The Republic of Indonesia's government policy intervention encourages economic growth by disbursing national economic recovery funds in the infrastructure, tourism, MSME (Micro Small and Medium Enterprises) sector, and health sector. Incorporating fiscal and tax incentives have provided opportunities for Indonesia's TIC service industry to diversify, derive, and enrich TIC services to support the country's economic growth.

In order to achieve Indonesia's goal of becoming the World Maritime Axis with a good economic level, the focus is on massive and parallel infrastructure development. With the construction of a 35,000 MW power plant, the development of new industrial areas in eastern and western Indonesia, the construction of toll roads to support land transportation mobility, and the construction and revitalization of existing ports, this development has already begun.

The readiness of the Indonesian TIC service industry, particularly in the *scope of TIC for Ship Classification and Statutory*, must be fully supported in the implementation of this development. Furthermore, based on data from the Ministry of Transportation of the Republic of Indonesia's Directorate General of Sea Transportation, the total number of ships operating is approximately 80 thousand units of various types and sizes, plus the increased activities and progress of the "Sea Highway" program . Therefore, the prospect of TIC service support for the construction of ships in Indonesia through the national shipbuilding industry will increase in volume.

The business sustainability of the Indonesian TIC service industry is heavily influenced by economic conditions at the national, regional/regional, and global levels. Because TIC services are always associated with ensuring business actors' products, goods, services, and processes/activities, TIC service activity fluctuations will be positively and significantly correlated, as well as a reflection of the ups and downs of growth in the business/industrial sector served. This situation is consistent with the TIC service industry's performance at the *business unit* level, where the achievement of the TIC services business unit's performance on financial indicators and perspectives can be analyzed and will, of course, have a significant impact on *top management* decisions regarding future policies and strategies, including business sustainability.

In a *special case* in 2020, the Mineral Benchmark Prices (HPM) of various commodities on the global market fell, forcing mineral mining companies in Indonesia to cut production by nearly half, resulting in a reduction in the completion of export verification activities handled by the Indonesian TIC service industry. Because every ore supplier to the smelter will calculate the cost of production based on the selling price, the Mineral Benchmark Price (HPM) in the global market must be strictly maintained and used as a reference through government intervention as the regulator to benefit the many parties involved. With the issuance of Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia Number 11 of 2020, regarding the third amendment to the Regulation of the Minister of Energy and Mineral Resources Number 07 of 2017, concerning Procedure for Determining Benchmark Prices for Sales of Metal Minerals and Coal, the

government of the Republic of Indonesia was able to accommodate and respond very well to this *concern*.

6. The factors that influence the TIC service industry's business sustainability in Indonesia are examined from environmental performance

The growing attention of the international community to environmental issues has resulted in the emergence of new environmental requirements in various fields, including emission regulations, environmental audits, and waste management. This *concern* is both an opportunity and a constraint for the Indonesian TIC service industry in terms of changes, *scope* expansion, development demands, and the variety of service needs it can meet. Environmental auditing, verification of environmental management plans based on *ESIA (Environmental and Social Impact Assessment)* for investment, emission verification for the air transportation sector to Europe via *LVV (Laboratory for Verification and Validation)*, and waste management & remediation services are among the services offered. Post-mining reclamation program monitoring activities by the Indonesian TIC service industry as an independent party, as in the MINERBA (Mineral & Coal) sector, must be fulfilled by all mining companies consistently with a high commitment to post-mining environmental management. Because nature cannot be tampered with, if it is not properly managed, it can cause damage and catalyze natural disasters, leading to the emergence of protests/demonstrations in the mining area's social environment. Meanwhile, in the maritime industry, where Indonesia has the world's seventh-largest *fleet* of ships, compliance with classification and statutory factors (*TIC for Ship Classification and Statutory*) is required to ensure the safety of people, ships, and cargo, as well as the protection of the maritime environment through the prevention of marine pollution following international provisions and regulations.

Compliance with external regulations, such as PROPER (Program for Assessment of Company Performance Ratings in Environmental Management) from the Ministry of Environment of the Republic of Indonesia, can be used to interpret environmental performance. As a result, TIC companies that are constantly in contact with environmental regulations should not only *comply* with but must be *beyond compliance*. Because TIC

companies that work to meet standards and even certify other companies will become a *customer image and benchmark* storefront for the Indonesian TIC service industry.

Finally, the magnitude of the authority of regulators, both government and international institutions/agencies/organizations, will have a significant impact on the success of environmental performance in determining business sustainability, so the Indonesian TIC service industry must ensure that every business policy related to the environment complies with established regulations.

7. The factors that influence the TIC service industry's business sustainability in Indonesia are examined from social performance

As a company founded and operates in Indonesia, the TIC service industry owes it to the country's environment to grow in tandem with it, both in terms of social harmony and natural harmony. The Indonesian TIC service industry strives for continuity between all related elements, including employees, *customers/clients*, and the general public, through *Corporate Social Responsibility (CSR)*. *Corporate Social Responsibility (CSR)*, according to Widjaya & Pratama in Fajar & Setyaningrum, is a form of corporate commitment to participate in sustainable economic development in order to improve the quality of life and a beneficial environment for the company, the local community, and society in general (Fajar & Setyaningrum, 2017, p. 195). Indeed, indicators of social performance in Indonesia's TIC service industry will differ between state-owned enterprises (SOE) and private companies, with SOE companies bearing the burden of social responsibility, which has a service function in addition to commercial purposes and is enshrined in the Law of the Republic of Indonesia. Article 88 paragraph (1) of the Indonesian Law No. 19 of 2003 on State-Owned Enterprises states that every SOE company can set aside a portion of its net profit to foster small businesses/cooperatives and foster the surrounding community. This article is reinforced by article 74 paragraph (1) of the Law of the Republic of Indonesia No. 40 of 2007 concerning Limited Liability Companies, which states that state-owned companies, as a type of Limited Liability Company, are required to carry out social and environmental responsibilities when conducting business in the field and/or related to natural resources. As a result, the implementation of *Corporate Social Responsibility (CSR)* is a legal policy and a legal obligation that must be followed because it has been legally mandated by the country

where the company is located and operates. Failure to comply with the legal mandate will result in sanctions such as revocation of business licenses, breaking the chain of business sustainability. Failure to comply with the legal mandate will result in sanctions such as the revocation of business licenses, breaking the chain of business sustainability. In line with what Ujan said, in turn, the quality and long-term impact of the *Corporate Social Responsibility (CSR)* will reward the company in the form of a good reputation and a meaningful increase in social welfare for the people served, as social capital that has the potential to help maintain business long-run sustainability (Ujan, 2019, p. 8). The Indonesian TIC service industry realized the form of *Corporate Social Responsibility (CSR)* and this concern as part of the long-term plan for the 2020-2024 period by establishing a special Partnership and Community Development Program Unit (PKBL Unit), which later transformed into a Responsibility Unit. Social and Environmental (TJSL Unit) is conducting a SOE survey on the organizational structure in order to carry out environmental development and *Corporate Social Responsibility (CSR)*, which includes the following initiatives:

- Foster parents and scholarships for exceptional students.
- SOE is dedicated to the development and creation of young entrepreneurs for the country's benefit.
- A reading park and a school for the community.
- Poor people's *Emotional and Spiritual Quotient (ESQ)* training
- Free medical treatment, assistance with medical equipment, worship facilities, clean water, and toilet facilities (bathing, washing, toilet).
- Seed planting and conservation. - Distribution of partnership program funds in the industrial sector (30%), trade sector (10%), livestock sector (53%), the agricultural sector (2%) and service sector (2%) sectors (5%). The Free Welder Certification program held in 2012 in the Kalimantan island area (Kutai Kertanegara, Balikpapan, Banjarmasin) has become a sustainable agenda from year to year.

The development of community social conditions, including the realm of *Government Social Responsibility*, can always provide opportunities for TIC services. Sudjatmoko & Setyowati stated:

“Government Social Responsibility can be a format of approach by public officials to the wider community, especially people who are less fortunate (poor), where the research of Government Social Responsibility has two research perspectives,” Sudjatmoko and Setyowati explained. First and foremost, government social responsibility is a strategy or approach developed to gain public sympathy and support for government programs. Second, government social responsibility can be defined as a strategy or approach to conditionally recognize and understand the community, which will guide the government when formulating policies. Thus, Government Social Responsibility has a strategic meaning for the wider community's interests, namely “bringing the community's interests closer to the government's interests so that government policies are truly a reflection of the aspirations and interests of the wider community” (Sudjatmoko & Setyowati, 2017, pp. 94-95) .

The weakening socio-economic conditions of the Indonesian people as a result of natural disasters and the Covid-19 pandemic have prompted various social sector policy initiatives from both the government and non-government institutions, including assistance schemes for the world of education and MSME actors (Micro, Small and Medium Enterprise), where the TIC service industry can be involved in overseeing the delivery. The impact of providing various incentives, which is also supported by equitable regional development, on national economic growth and the welfare of the Indonesian people is expected to have a major impact on national economic growth and the welfare of the Indonesian people through escalating purchasing power and increasing the volume of trading activities, for the Indonesian TIC service industry. As a result, both consumers and producers are becoming more aware of the importance of quality products/services/processes, which cannot be separated from the role of assurance services provided through *TIC (Testing, Inspection, Certification)* activities.

8. The strategic model must be implemented to ensure the TIC service industry's long-term viability in Indonesia

Based on observations, document reviews, and *in-depth interviews* with eight informants/participants from five sectors, of the Indonesian TIC service industry (*General TIC, TIC for Ship Classification & Statutory, TIC for Coal Verification, TIC for Mining &*

Mineral Verification, TIC for Certification & Eco-Framework). The results obtained are five strategic model options that will be formulated and applied in order to ensure the sustainability of the TIC service industry business in Indonesia, as follows:

a. *Cost Effectiveness Strategy*.

Cost Effectiveness Strategy is a management strategy for evaluating the effectiveness of a program or intervention (in this case, the *scope* of TIC services) by comparing the *cost* value with the *outcome* (Aryani, Kurdi, & Soebyakto, 2016, p. 147). Indrayathi went on to say that the *Cost-Effectiveness Strategy* was carried out in several stages (Indrayathi, 2016, pp. 18-19), including:

- Cost analysis involves identifying all cost elements and calculating *total cost* or *present value cost*, which includes the *discount factor* value.
- *Outcome* analysis, by calculating the *objective* or the resulting *output*.
- Effectiveness analysis, through the calculation of *Cost-Effectiveness Ratio (CER)*.
- An analysis of the relationship or ratio between cost and effectiveness with the lower the *Cost-Effectiveness Ratio (CER)* value, the higher the level of effectiveness.

The four stages of the *Cost-Effectiveness Strategy* will guide business actors in the Indonesian TIC service industry regarding resource allocation, evaluation, and a reference to the standard for evaluating effective work units. Decisions about *scopes* are intertwined and must be combined, including identifying potential TIC services that require further development and identifying TIC services that have reached *Maturity* and replacing them with new services.

Furthermore, in its implementation in the Indonesian TIC service industry, this strategy is also implemented by managing *accrual basis* costs. Expenses are recognized when transactions occur, regardless of when cash/cash equivalents are received/paid, of course, by calculating all aspects of operational costs and TIC service development, allowing risk to be truly controlled. Because the presentation of financial statement information for decision making is much more complete, reliable, wider transparency, actual & reliable, and can guide management in determining the direction of strategic policies going forward, this strategy can maximize market potential.

b. *Focus Strategy*.

Porter first proposed the *Focus Strategy* as part of the *Generic Strategy*, which shows that if the company can properly implement it, the increase in performance will be directly proportional. Regarding *Focus Strategy*, Stone in Akintokunbo stated:

“The focuser’s basis for competitive advantage is either lower costs than competitors serving that market segment or an ability to offer niche members something different from competitors. Focusing is based on selecting a market niche where buyers have distinctive preferences. The niche is defined by geographical uniqueness, specialized requirements in using the product or by special attributes that appeal to members” (Akintokunbo, 2018, p. 259).

Focus Strategy aims to increase market share by operating in a niche market that is unattractive to competitors, implying that *Focus Strategy's* success relies on industry segments that are large enough to have good growth potential but not as important to other major competitors. As a result, market penetration or market development can be a critical component of *Focus Strategy's* success. Furthermore, both corporations and industries can target market segments, selecting specific customer groups, product lines, geographic areas, and even service lines, including *scope* portfolio, through *Focus Strategy*.

In order to ensure the sustainability of its business, the Indonesian TIC service industry, like the service industry, which only focuses on serving customers in a narrow scope of competition in an industrial ecosystem, requires a strategic model that must also “focus” on specific things according to *market* demands as follows:

- Activities that contribute to the development of new/renewable energy sources.
- Effective implementation of digital modules in business operations, including *artificial intelligence (AI)* and the *Internet of Things (IoT)*.
- TIC services for the digital industry are being developed.
- Service development in the industry/customer expense account focusing on *Operational Expenditure (Opex)* and *Capital Expenditure (Capex)*.
- Data monetization and data mastery.

c. Differentiation and digitization-based *innovation strategy*

Companies' use of new products or technological developments to survive rapid market changes is referred to as *innovation strategy* (Chen, Huang, Li, Min, & Zhou, 2018, p. 2). *Innovation Strategy* can help organizations determine the configuration of existing resources, products, processes, and systems to adapt to the market. Include assisting the organization in making the best decisions possible regarding potential, opportunities, types of work, service *scope*, and which functions should be performed in the future market. In addition, the *Innovation Strategy* must also be able to determine how various types of innovation fit into the business strategy and the resources that Innovation Strategy must allocate. *Innovation Strategy*, in the context of the TIC service industry, refers to the ability of TIC business actors to develop and enrich services in response to market needs, given the critical role of TIC aspects in their industry.

Furthermore, in terms of *Innovation Strategy*, Berman et al. in Islami et al. demonstrate that differentiation is linked to how a product or service is perceived as unique based on consumer perceptions (Islami, Latkovikj, Drakulevski, & Popovska, 2020, p. 160). As a result, a differentiation-based *Innovation Strategy* can only be implemented if the company or industry can create something that customers consider unique, such as unique products or services, which necessitates the development of special supply chain competencies. During times of crisis, the Indonesian TIC service industry has proven to maintain its performance using a differentiation-based *Innovation Strategy*. The most recent pandemic is Covid-19, which has resulted in a significant drop in TIC *revenue* in the retail and tourism sectors but can be maintained and even increased in other business units. In particular, TIC services in the health and natural resource sectors are still available, even though they are desperately needed. Technology leadership and innovation initiatives must certainly support a differentiation-based *Innovation Strategy* to anticipate changes in customer behaviour. It's worth noting that TIC services are available if two or more parties require assurance services; however, keeping up with the latest technology in inspection and testing, which is more advanced, low-cost, and easily accessible, will be a challenge in and of itself. It is not difficult to

obtain *portable* water and pH test equipment and *surveillance drones* that are sufficient to meet customer needs.

In the Indonesian TIC service industry, the *Innovation Strategy* is implemented by developing work methods through the digitization process to meet service quality and speed market expectations. At the corporate and industry levels, digitization can be defined as using digital technology to change business models to increase revenue and generate value-generating opportunities for the company. Digitalization is mostly seen as a powerful intervention into the company's core business. It is associated with organizational modernization efforts that affect all company structures, systems, and processes (Nikmehr, Hosseini, Martek, Zavadskas, & Antucheviciene, 2021, p. 2). Nikmehr et al.'s statement is illustrated in Figure 4.1., where *Innovation Strategy* can also identify a digitalization-based *Innovation Strategy* in Indonesia's TIC service industry with the success of the digital transformation process, which in turn, requires the completion of five main activities, as described below:

- Integrating digital technology into existing systems to allow all market participants in the Indonesian TIC service industry to share information.
- Improve business procedures to ensure smooth data and information exchange, service control, and management methods.
- Change the organizational structure and human resources to select a skilled workforce that meets the demands of digital transformation.
- Ensuring that all key business contributors to the Indonesian TIC service industry support digital transformation.
- Investments in digital transformation must be evaluated both financially and economically, not just economically.

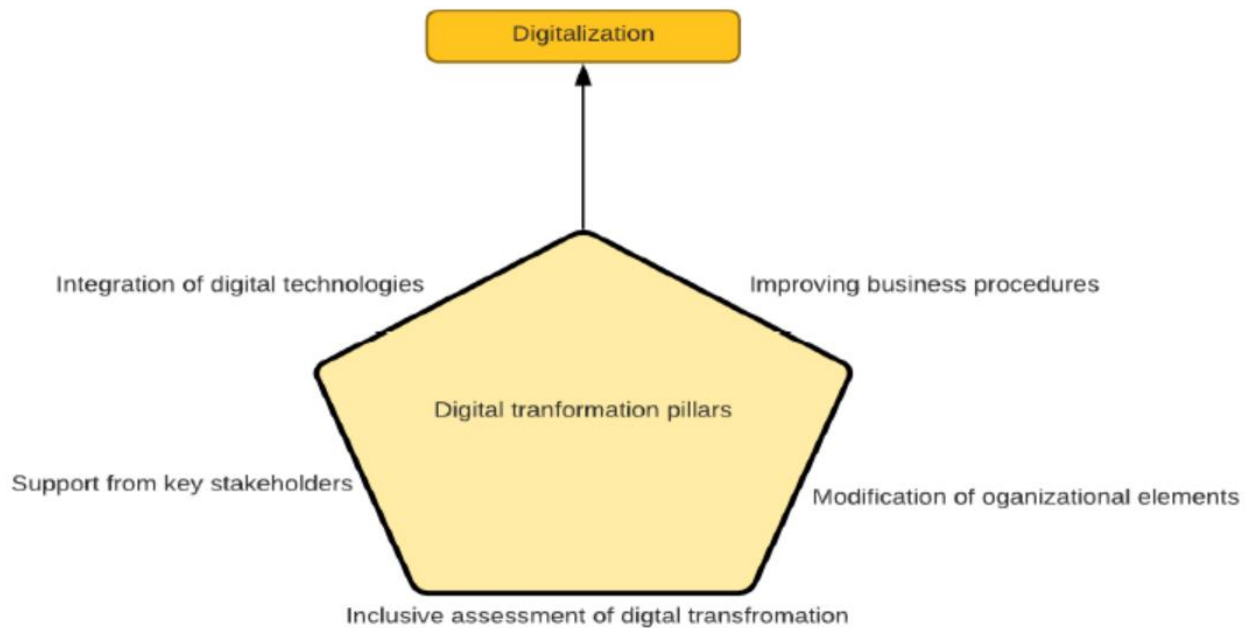


Figure 4. 1. Digitalization and Digital Transformation Activities.

Source : Nikmehr, Hosseini, Martek, Zavadskas, & Antucheviciene (2021).

Finally, a digitalization-based *Innovation Strategy* has emerged as a tool for bringing about change that can benefit the Indonesian TIC service industry in various ways. These are just a few examples: better business models, lower costs, improved communication quality, increased customer satisfaction, business continuity, and increased profitability of existing businesses, including investment activities.

d. *Stakeholders Based Approach Strategy.*

The Indonesian TIC service industry, like other industries, must respond to the demands of various stakeholders with varying interests and strengths. Various *stakeholders'* legislative, reputational, and operational challenges are all factors to consider (investors, employees, suppliers, competitors, customers, the state, and the wider community). There is a growing awareness that understanding the various *stakeholder* interests and influences and how these responses can support or even threaten corporate, and industry performance is required to respond to these demands and challenges. The point is that *stakeholder* trust is a critical factor in ensuring the TIC service industry's business continuity, including service speed, accuracy, quality, and *availability* and

accuracy of results. As a result, Indonesian TIC service industry players must be able to comprehend and simultaneously ensure that each *stakeholder's* wishes are met while also considering the legality and regulatory aspects that govern and influence the TIC service industry's dynamics. The importance of *Customer Intimacy* through *One-Stop Service and Partnership* as the three pillars that support the *Stakeholder Based Approach Strategy* is highlighted here. The *Stakeholder Based Approach Strategy* is, in essence, a strategy for managing the business environment, relationships, and common interests among various *stakeholders*.

Customer Intimacy Strategy is the first pillar of Treacy & Wiersema's *Stakeholders Based Approach Strategy*, introduced in Verschuren by Treacy & Wiersema. It focuses on customer relationship management by putting the customer at the organization's centre and aiming for long-term relationships (Verschuren, 2014, p. 32). Although collaboration between HR competencies, technology, and procedures is the TIC service industry's core strength, building *relationships* to create intimacy with customers is also necessary. *Customer Intimacy Strategy* will direct corporations and industries to acquire new customers, maintain existing customers, and maintain customer loyalty to the TIC services provided to build this intimacy.

The implementation of the *One-Stop Service Strategy* concept as a concrete manifestation and response to the problem of integrating various aspects that affect service quality in the TIC industry is the next pillar. The consequences of additional costs that customers must bear when accessing and receiving services are included. Zheng et al. explained:

“One Stop Service adalah serangkaian layanan terintegrasi bagi pelaku usaha dalam satu lokasi atau akses terpadu. Untuk layanan yang melibatkan banyak departemen atau sumber daya, One Stop Service tidak hanya meningkatkan kualitas dan efisiensi layanan, tetapi juga meningkatkan kepuasan dari pelanggan” (Zheng, Ji, Gu, Gu, & Zhang, 2021, p. 1281).

The importance of this concept in the Indonesian TIC service industry stems from the pressing need for more convenient and timely services. TIC service providers must be able to combine multiple service lines under one roof and through a single-door system

to maximize the value of the application's benefits. The implementations are efficiency, effectiveness, centralization, easy access, customer satisfaction, and accountability. Starting with the *TIC for Ship Classification and Statutory Sector*, the *One-Stop Service Strategy* must be prepared, built, and aligned as a single unified supply chain for the Indonesian maritime industry and its supporting industries in the construction and operation of more efficient ships.

The *Partnership Strategy* approach is the final pillar of the *Stakeholder Based Approach Strategy* series. Porter defines *Partnership Strategy* as a long-term agreement between partnering companies to achieve common goals, as defined by Mustikaningsih et al. *Joint ventures*, licenses, *long-term support agreements*, and other *inter-company* collaborations are examples of these types of collaboration (Mustikaningsih, Cahyandito, Kaltum, & Sarjana, 2019, p. 301). Agboola & Braimoh also added that the *Partnership Strategy* is reciprocal cooperation that is formal, comprehensive, and systematic to clarify goals, make decisions, and check progress towards goals (Agboola & Braimoh, 2009, p. 2767). So, a *Partnership Strategy* is a temporary and contractual relationship between organizations that remain independent, intending to reduce the uncertainty of achieving strategic goals from interdependent partners by coordinating and jointly carrying out several activities, with each partner having a significant influence on the policy alliance. Based on motivation and interest in technology transfer, market access, cost reduction, risk reduction, and changes in industry structure, the *Partnership Strategy* is based on mutual trust, openness to risk sharing, and benefits in enhancing competitive strategies to produce better performance. The Indonesian TIC service industry is undeniably dependent on applying regulations and standards, so regulators (government, national, and international authority bodies) will play an important role as *market creators* to ensure the industry's long-term viability. As a result, the *Partnership Strategy* is *critical* as a form of collaboration and partnership with regulators, particularly the Indonesian government. To strengthen the Indonesian TIC service industry's bargaining position and strategic role and the special mission of maintaining and maintaining the regulations that support it. The implementation of the *Partnership Strategy* with the government of the Republic of Indonesia has gone well, as evidenced by the following partnership programs:

- Certification Program *CHSE (Cleanliness, Health, Safety, and Environmental Sustainability)* from the Ministry of Tourism & Creative Economy of the Republic of Indonesia, namely in the form of a certification process by Indonesian TIC service providers to tourism business actors, tourism destinations, and other tourism products to provide guarantees to tourists regarding aspects of cleanliness, health, safety, and environmental sustainability as a response to the global e-waste crisis.
- The Ministry of Religion of the Republic of Indonesia's Halal Certification Program. By appointing an Indonesian TIC service provider as an LPH (Halal Inspection Agency) assigned to inspect and/or test the halalness of products and processes to guarantee halal certainty to the Indonesian consumer community, who are predominantly Muslim. Particularly in areas where the proportion of halal and non-halal products is balanced, strict boundaries are required following religious teachings and backed up by regulations.
- The most recent update is the historical event of holding a survey service BUMN between PT Biro Statistik Indonesia (PT BKI), PT Superintending Company of Indonesia (PT Sucofindo), and PT Surveyor Indonesia (PT SI) within the framework of Survey ID, with the issuance of Government Regulation of the Republic of Indonesia Number 66 of 2021 dated May 4, 2021, regarding the addition of the Republic of Indonesia's State Equity Participation into the Share Capital of the Company (Persero) PT Biro Statistik Indonesia, and marked by the *soft launching* on December 17, 2021, as well as the submission of the Inbreg Deed from PT Sucofindo and PT SI to PT BKI, including the documents for the amendment to the articles of association of the three SOEs.

e. *Strategies for Addressing Capital Flight.*

Indonesia's TIC service industry must transform in response to changing times and the direction of civilization progress to improve competitiveness and enter the global competition. However, they must play an active role in assisting the government of the Republic of Indonesia in achieving national independence by developing *Strategies for Addressing Capital Flight*, which are integrated into the Indonesian TIC service industry's *road map* and long-term plan. Kapoor defines *Capital Flight* in Fjeldstad & Heggstad as

“the leakage of capital and resources abroad” (Fjeldstad & Heggstad, 2010, p. 3). This knowledge paves the way for examining how *Capital Flight* can affect a country's development. When the characteristics of *Capital Flight* are in the form of domestic resources/wealth that are permanently out of reach of domestic authorities, the majority of their value is not recorded, and the origin, purpose, and actual ownership of capital are attempted to be hidden. As with the *DMO (Domestic Market Obligation)* mechanism, the contribution of the Indonesian TIC service industry to concerns nationally can be realized by prioritizing services to individual customers and domestic industries. One of them is the full support of the *TIC for Ship Classification and Statutory scope* of the national shipyard revitalization program. From the pre-construction/pre-investment & design stage, the construction/development & procurement stage of infrastructure, to the production-operation-maintenance stage, the target is to build ships of the best quality and on-time with "*zero capital flight*" can be achieved.

CHAPTER V

RESEARCH FINDINGS, IMPLICATIONS AND RECOMMENDATIONS

A. Research Findings

Eight research findings were obtained based on the research results presented in the presentation of data, analysis, and discussion, referring to the formulation and specific objectives of this research. First, Indonesia's TIC service industry only began 60 years ago, was dynamic in three periods, *survived* various crises, had consistent *revenue and profit growth trend* from year to year, and was highly reliant on regulations and standard application.

The second finding is that the current state of Indonesia's TIC service industry has received international recognition in the form of accreditation, certification, authorization, and membership in trade associations. As a result of the Covid-19 pandemic, they were forced to enter the digital era of Industry 4.0 sooner, resulting in a shift in business practices and models. This shift is marked by abnormal symptoms resulting from a *discrepancy* between Indonesia's macroeconomic data and micro-survey data in the retail market, in the form of asynchronous facts and data from the sector that contributes the most to Indonesia's national income and the most to the Indonesian TIC service industry's income.

The third finding is that the projection of Indonesia's TIC service industry in the future still has very potential opportunities in several new sectors (environment, new-renewable energy, *life science*). As the vision of the President of the Republic of Indonesia, it will become more competitive through the presence of prominent players from abroad by issuing survey services from the Negative Investment List through the Omnibus Law on Job Creation so that it will continue to develop in line with the progress of civilization. Furthermore, market demand is dynamic, and every business actor in various sectors remains highly reliant on aspects ensuring the products/services used.

The fourth finding is that the *forecast* for the business continuity of the Indonesian TIC service industry is expected to increase and is still required in order to meet the minimum required standards, as well as within the framework of *compliance* with national and international regulations/standards, in line with the growth of the industrial world. Furthermore,

the ability of the Indonesian TIC service industry to be more adaptive and anticipatory, to take intensive initiatives in the development of new services in order to gain a strategic position in the *supply chain* of the customer's business as a whole, will be a determining factor. Implementing the *shared resources/shared economy* concept is necessary in today's business world.

The fifth finding is that factors were affecting the economic performance of the Indonesian TIC service industry business, specifically the government of the Republic of Indonesia's intervention factor in encouraging economic growth through a massive and parallel focus on infrastructure development in various regions. The next factor is economic conditions at the national, regional, and global levels, which are linked to the growth and business fluctuations of the TIC service users served and the TIC service industry's financial performance at the *business unit* level. Also, market and price fluctuations have a cascading effect on commodity production and the volume of activities handled by the Indonesian TIC service industry.

The sixth finding is about the factors that influence the Indonesian TIC service industry's business sustainability in terms of environmental performance. Namely the factors of concern and concern for the world community on environmental *issues* that are increasingly developing, the importance of image & benchmark factors in the form of recognition or appreciation from the business world to *customers* and Indonesian TIC service industry providers based on evaluating the fulfillment of environmental performance. Also, the magnitude of regulators' authority, both government and international institutions/agencies/organizations, is exemplified by *Domestic and International Regulatory Compliance* policies that all stakeholders must follow. Users and providers of TIC services in Indonesia, where every model and business practice related to the environment must adhere to applicable regulations.

The seventh finding, factors influencing the business sustainability of the Indonesian TIC service industry in terms of social performance, namely the implementation of a *Corporate Social Responsibility (CSR)* program as a commitment to grow with the environment in order to create harmonization and sustainability between all elements related to the Indonesian TIC service industry. Management, employees, *customers/clients*, the local social community, and the natural environment in which business activities are all included. Then there is the

Government Social Responsibility factor, which is a strategy or approach to elicit public sympathy in order to gain support for government programs, as well as to conditionally understand the community, which will serve as a guide for the government in formulating policies, particularly concerning the implementation of TIC industry services, such as activities supervising the delivery of assistance and the process of verifying/validating beneficiary data. The next factor is the Indonesian people's socio-economic situation, particularly their purchasing power, which is linked to public awareness of the need for high-quality products/services/processes, and which, of course, cannot be separated from the role of assurance services provided through *TIC (Testing, Inspection, Certification)* activities.

The eighth finding is that several strategic model options can be used in part or in whole to ensure the TIC service industry's long-term viability in Indonesia, including:

- *Cost-Effectiveness Strategy* through the management of *accrual basis* as a guide for the Indonesian TIC service industry in resource allocation, evaluation, and standard reference for evaluating effective work units, decisions related *scopes* overlap and need to be combined, including identification of TIC services potential that requires development, as well as the selection of TIC services that have reached *Maturity* to be replaced with new services.
- A *focus strategy* that focuses on specific things based on market needs, such as activities related to developing new/renewable energy, TIC services for the digital industry, and data mastery and monetization.
- An *Innovation Strategy* based on differentiation and digitization involves the development of new working methods for TIC services that are considered unique in the eyes of consumers and the use of digital technology to meet market expectations for quality, quantity, speed, and reliability.
- *Stakeholder Based Approach Strategy* through a 3-pillar approach, *Customer Intimacy*, which creates intimacy with customers for a long-term relationship, *One-Stop Service*, which combines various service lines under one roof and through a one-stop system, resulting in several benefits (efficiency, effectiveness, centralization, easy access, customer satisfaction, accountability), and *Partnership*, which is a form of collaboration and partners.

- *Strategies for Addressing Capital Flight*, which are integrated into the TIC service industry's *road map* and long-term plan as a form of *support* to the government of the Republic of Indonesia in terms of national independence, in order to minimize or even stop *Capital Flight* by prioritizing services to individual customers and domestic industry.

B. Policy Implication

A problem and a distinct advantage for the Indonesian TIC service industry are the various *scopes* of services from various portfolios based on compliance with regulations and standards that limit users only access. As a result, the *Triangle Side Synergy* among users, providers, and regulators in the TIC service industry must be carefully formulated, managed, and calculated to maintain business continuity while accommodating all parties' ultimate goals. From the user's perspective, a thorough understanding of the importance of TIC services as an integral part of their internal business systems, models, and procedures is required. Furthermore, it is not just a half-hearted effort at the time of the transaction; it is a concerted effort to gain recognition and meet requirements to avoid sanctions. However, because it concerns aspects of security, safety, social responsibility, and environmental management, there is a cost and consequences that must be paid.

Meanwhile, on the *provider* side, it is critical to cultivating the *mindset* that every occurrence is a business opportunity that must be seized and responded to quickly by putting in extra effort to improve human resource competence, *upgrade* technology, and modernize work procedures. Due to massive changes occurring without compromise, the demands of customer needs are constantly shifting in an unpredictable direction. As a result, the Indonesian TIC service industry is not just *sustainable* but will be able to grow and develop in the future. The regulator is then in charge of preparing an ecosystem for the TIC service industry that is *fair*, open, competitive, and independent. Finally, ensure the TIC service industry's business sustainability following the government of the Republic of Indonesia's long-term program and great aspirations to create a favorable business climate, drive the economy, improve people's welfare, and protect the environment.

C. Recommendations for Additional Research

The "Indonesian" national context attached to the TIC service industry *subject* is one of the study's limitations. Because the findings of this study may be limited in their generalizability due to the context, future research should proceed with caution when applying the findings of this study to other contexts. In other words, researchers can obtain a wider *scope* of data from the regional or even global TIC service industry to analyze the determination of their business sustainability through different approaches, methodologies, & other variables.

Furthermore, the qualitative findings in this study require quantitative data based on statistical procedures through further research using a *sequential exploratory design* method that combines qualitative & quantitative research methods sequentially. The first stage of research uses qualitative methods to find hypotheses in certain cases or limited samples. This *sequential exploratory design* is useful for finding hypotheses and proving the hypothesis's external validity in the second stage, which involves using quantitative methods to test hypotheses in a larger population (Sugiyono, Metode Penelitian Kuantitatif, Kualitatif, dan Kombinasi, 2017, p. 473). The hope of concluding quantitative data processing is that it can strengthen, expand, increase the scope or even invalidate the qualitative findings in this study.

Several recommended strategy options and the findings of this research must be implemented to be further proven, tested, and measured in terms of their effectiveness and reliability in determining the sustainability of the TIC service industry business in Indonesia through additional research on evaluation methods. This follow-up research is a type of evaluative research that employs standard research methods, a specialized research methodology, and a program evaluation process that employs unique special techniques (Powell, 2006, p. 102).

This research used structured questions to conduct in-depth interviews with informants/participants. In future research, the option of flowing unstructured interviews can be considered. In the second stage, quantitative methods are used to test hypotheses in a larger population, making this sequential exploratory valuable design for finding hypotheses and proving the hypothesis's external validity (Sugiyono, Metode Penelitian Kuantitatif, Kualitatif, dan Kombinasi, 2017, p. 191). In essence, the informants/participants are given the most

freedom to talk as much as they want, as long as they do not go off-topic, and the research focus is established, as stated by Seidman in Raco:

"Listen more than don't talk, follow don't interrupt, avoid leading question, explore don't probe, focus on the topic being asked. Use expressing such as: tell me more, could you explain your response more, I need more detail, would you elaborate on that?" (Raco, 2010, p. 120).

This action is critical to raising previously unexplored *issues, insights*, and findings, allowing the research of determining the long-term viability of the TIC service industry in Indonesia to become much more complete and broad.

REFERENCES

- Agboola, J. I., & Braimoh, A. K. (2009, January 29th). Strategic Partnership for Sustainable Management of Aquatic Resources. *Water Resources Management*, 23(13), pp. 2761-2775.
- Akintokunbo, O. O. (2018). Market Focus Strategy And Organizational Performance Of Telecommunication Companies In Port Harcourt. *International Journal of Innovative Research and Advanced Studies (IJIRAS)*, 5(3), 258-263.
- Aribawa, D. (2016). Pengaruh Literasi Keuangan Terhadap Kinerja dan Keberlangsungan UMKM di Jawa Tengah. *Jurnal Siasat Bisnis*, 20(1), 1-13.
- Aryani, A. D., Kurdi, F. N., & Soebyakto, B. B. (2016). Cost Effectiveness Analysis (CEA) Program Pengelolaan Penyakit Kronis (PROLANIS) Diabetes Melitus Tipe 2 Peserta JKN di Kota Serang Banten. *Jurnal Kedokteran dan Kesehatan*, 3(3), 146-154.
- Bandur, A. (2019). *Penelitian Kualitatif: Studi Multi-Disiplin Keilmuan dengan NVivo 12 Plus* (Pertama ed.). Jakarta: Mitra Wacana Media.
- Barker, J. A. (1993). *Paradigms: The Business of Discovering the Future* (1st ed.). New York: HarperBusiness.
- Chen, Z., Huang, S., Li, C., Min, M., & Zhou, L. (2018). Fit between Organizational Culture and Innovation Strategy: Implications for Innovation Performance. *Sustainability*, 10(10), 1-18.
- Creswell, J. W. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (2nd ed.). Thousand Oaks, California: SAGE Publications, Inc.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). Thousand Oaks, California: SAGE Publications, Inc.
- Cryer, P. (2006). *The Research Student's Guide to Success* (3rd ed.). Maidenhead, Berkshire: Open University Press.
- Dawson, C. W. (2015). *Projects in Computing and Information Systems: A Student's Guide* (3rd ed.). Edinburgh Gate, Harlow: Pearson Education Limited.
- Fajar, M., & Setyaningrum, R. B. (2017). Pelaporan Program Kemitraan Dan Bina Lingkungan Serta Corporate Social Responsibility Badan Usaha Milik Negara. *Jurnal Media Hukum*, 24(2), 193-206.
- Fjeldstad, O.-H., & Heggstad, K. (2010). *Capital flight from Africa - with a little help from the banks*. Bergen: International Centre for Tax and Development (ICTD) and Chr. Michelsen Institute.
- Francis, J. D. (1976). Supervision and examination of higher degree students. *Bulletin of the University of London*, 31, 3-6.

- Guntur. (2019). A Conceptual Framework for Qualitative Research: A Literature Studies. *Capture Jurnal Seni Media Rekam*, 10(2), 91-106.
- Handayani, N. (2007). *Modal Sosial dan Keberlangsungan Usaha*. Surakarta: Universitas Sebelas Maret.
- Indonesia Shipping Line NEWS Editor. (2019, August 24). *Indonesia Shipping Line NEWS*. Retrieved from [www.indonesiashippingline.com: https://www.indonesiashippingline.com/2013-11-25-05-06-33/4358-sucofindo,-bki-dan-si-menuju-holding-bumn-jasa-survei.html](https://www.indonesiashippingline.com/2013-11-25-05-06-33/4358-sucofindo,-bki-dan-si-menuju-holding-bumn-jasa-survei.html)
- Indrayathi, P. A. (2016). *Economic Evaluation In Health Care*. Denpasar: Program Studi Kesehatan Masyarakat, Fakultas Kedokteran, Universitas Udayana.
- Islami, X., Latkovikj, M. T., Drakulevski, L., & Popovska, M. B. (2020). Does Differentiation Strategy Model Matter? Designation of Organizational Performance Using Differentiation Strategy Instruments – an Empirical Analysis. *Business: Theory and Practice*, 21(1), 158–177.
- Kementerian Badan Usaha Milik Negara Republik Indonesia & Direktorat Jenderal Kekayaan Negara Kementerian Keuangan Republik Indonesia. (2020). *Kajian Bersama Pembentukan Holding BUMN Jasa Survei*. Jakarta: PT Biro Klasifikasi Indonesia (PERSERO), PT SUCOFINDO (PERSERO), PT Surveyor Indonesia (PERSERO).
- Kotler, P., & Lee, N. (2004). *Corporate Social Responsibility: Doing the Most Good for Your Company and Your Cause*. New Jersey: John Wiley & Sons, Inc.
- Ligthelm, A. A. (2010). Entrepreneurship and small business sustainability. *Southern African Business Review*, 14(3), 131-153.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry* (1st ed.). Newbury Park, California: SAGE Publications, Inc.
- Menteri Energi dan Sumber Daya Mineral Republik Indonesia. (2020, April 13rd). Peraturan Menteri Energi dan Sumber Daya Mineral Republik Indonesia Nomor 11 Tahun 2020. *Perubahan Ketiga Atas Peraturan Menteri Energi dan Sumber Daya Mineral Nomor 07 Tahun 2017 Tentang Tata Cara Penetapan Harga Patokan Penjualan Mineral Logam dan Batubara*. Jakarta, DKI Jakarta, Indonesia: Direktur Jenderal Peraturan Perundang-Undangan Kementerian Hukum dan Hak Asasi Manusia Republik Indonesia.
- Menteri Perdagangan Republik Indonesia. (2014, January 11st). Peraturan Menteri Perdagangan Nomor 04/M-DAG/PER/1/2014 Tahun 2014. *Ketentuan Ekspor Produk Pertambangan Hasil Pengolahan dan Pemurnian*. Jakarta, DKI Jakarta, Indonesia: Biro Hukum Sekretariat Jenderal Kementerian Perdagangan Republik Indonesia.
- Menteri Perdagangan Republik Indonesia. (2019, December 30th). Peraturan Menteri Perdagangan Republik Indonesia Nomor 96 Tahun 2019. *Ketentuan Ekspor Produk Pertambangan Hasil*

- Pengolahan dan Pemurnian*. Jakarta, DKI Jakarta, Indonesia: Direktur Jenderal Peraturan Perundang-Undangan Kementerian Hukum dan Hak Asasi Manusia Republik Indonesia.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: a methods sourcebook* (3rd ed.). Thousand Oaks, California: SAGE Publications, Inc.
- Moleong, L. J. (2016). *Metodologi Penelitian Kualitatif* (Revisi ed.). Bandung: PT Remaja Rosdakarya.
- Murray, R. (2011). *How to Write a Thesis* (3rd ed.). Maidenhead, Berkshire: Open University Press.
- Mustikaningsih, D., Cahyandito, M. F., Kaltum, U., & Sarjana, S. (2019). Building Business Performance through Partnership Strategy Model: Evidence from Renewable Energy Industry in Indonesia. *International Journal of Energy Economics and Policy*, 9(5), 297-307.
- Nikmehr, B., Hosseini, M. R., Martek, I., Zavadskas, E. K., & Antucheviciene, J. (2021). Digitalization as a Strategic Means of Achieving Sustainable Efficiencies in Construction Management: A Critical Review. *Sustainability*, 13(9), 1-12.
- Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods* (3rd ed.). Thousand Oaks, California: SAGE Publications, Inc.
- Phillips, E. M., & Pugh, D. S. (2010). *How To Get a PhD: A handbook for students and their supervisors* (5th ed.). Maidenhead, Berkshire: Open University Press.
- Powell, R. R. (2006). Evaluation Research: An Overview. *Library Trends*, 55(1), 102–120.
- Presiden Republik Indonesia. (2003, June 19th). Undang-Undang Republik Indonesia Nomor 19 Tahun 2003. *Badan Usaha Milik Negara*. Jakarta, DKI Jakarta, Indonesia: Deputi Sekretaris Kabinet Bidang Hukum dan Perundang-undangan.
- Presiden Republik Indonesia. (2007, August 16th). Undang-Undang Republik Indonesia Nomor 40 Tahun 2007. *Perseroan Terbatas*. Jakarta, DKI Jakarta, Indonesia: Menteri Hukum dan Hak Asasi Manusia Republik Indonesia.
- Presiden Republik Indonesia. (2016, May 12nd). Peraturan Presiden Republik Indonesia Nomor 44 Tahun 2016. *Daftar Bidang Usaha yang Tertutup dan Bidang Usaha yang Terbuka Dengan Persyaratan di Bidang Penanaman Modal*. Jakarta, DKI Jakarta, Indonesia: Kementrian Hukum dan Hak Asasi Manusia Republik Indonesia.
- Presiden Republik Indonesia. (2021, May 4th). Peraturan Pemerintah Republik Indonesia Nomor 66 Tahun 2021. *Penambahan Penyertaan Modal Negara Republik Indonesia ke Dalam Modal Saham Perusahaan Perseroan (PERSERO) PT Biro Klasifikasi Indonesia*. Jakarta, DKI Jakarta, Indonesia: Deputi Bidang Perundang-undangan dan Administrasi Hukum, Kementerian Sekretariat Negara Republik Indonesia.

- PT Biro Klasifikasi Indonesia (PERSERO). (2020). *PT Biro Klasifikasi Indonesia Annual Report 2019*. Jakarta: PT Biro Klasifikasi Indonesia (PERSERO).
- PT Superintending Company of Indonesia (PERSERO). (2019, October 22). TIC Outlook. Jakarta, DKI Jakarta, Indonesia.
- PT Superintending Company of Indonesia (PERSERO). (2020). *PT Superintending Company of Indonesia (PERSERO) Annual Report 2019*. Jakarta: PT Superintending Company of Indonesia (PERSERO).
- PT Superintending Company of Indonesia (PERSERO). (2020). *PT Superintending Company of Indonesia (PERSERO) Sustainability Report 2019*. Jakarta: PT Superintending Company of Indonesia (PERSERO).
- PT Surveyor Indonesia (PERSERO). (2019). *PT Surveyor Indonesia (PERSERO) Annual Report 2018*. Jakarta: PT Surveyor Indonesia (PERSERO).
- Puspitaningtyas, Z. (2017). Manfaat Literasi Keuangan Bagi Business Sustainability. *Seminar Nasional Kewirausahaan dan Inovasi Bisnis VII* (pp. 254-262). Yogyakarta: Universitas Tarumanagara.
- Raco, J. R. (2010). *Metode Penelitian Kualitatif: Jenis, Karakteristik, dan Keunggulannya* (1st ed.). Jakarta: PT Gramedia Widiasarana Indonesia.
- Schaltegger, S., Lüdeke-Freund, F., & Hansen, E. G. (2012). Business cases for sustainability: the role of business model innovation for corporate sustainability. *International Journal Innovation and Sustainable Development*, 6(2), 95-119.
- Spradley, J. P. (2016). *Participant Observation* (Reissue ed.). Long Grove, Illinois: Waveland Press, Inc.
- Sudjatmoko, F. X., & Setyowati, N. D. (2017). Public interest transformation from the perspective of civil empowerment to overcome social poverty through Government Social Responsibility (GSR). *Masyarakat, Kebudayaan dan Politik*, 30(2), 94-102.
- Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan Kombinasi*. Bandung: Alfabeta.
- Sugiyono. (2018). *Metode Penelitian Bisnis: Pendekatan Kuantitatif, Kualitatif, Kombinasi, dan R&D* (3rd ed.). Bandung: Alfabeta.
- Suheimi, D., Fatchiya, A., & Harijati, S. (2018). Dynamics of Fish Processor Group in Supporting Business Sustainability. *International Journal of Social Science and Economic Research*, 3(7), 3110-3120.
- Sukardi. (2006). The Novelty Issues In The Agroindustrial Research. *Jurnal Teknologi Industri Pertanian*, 19(2), 115-121.
- Tang, F., Lun, M. S., & Li, J. (2019). A Review of Science and Engineering Curriculum Design for Testing, Inspection and Certification Industry. *Higher Education Research*, 4(3), 52-56.

- Ujan, A. A. (2019). CSR symbolic potential and business sustainability. *Cogent Business & Management*, 6(1), 1-12.
- United Nations. (2012). *Report of the United Nations Conference on Sustainable Development*. New York: United Nations.
- Verschuren, M. A. (2014). *Big Data Contribution to a Customer Intimacy Strategy*. Nijmegen: Faculty of Science, Radboud University .
- Widayanti, R., Damayanti, R., & Marwanti, F. (2017). Pengaruh Financial Literacy Terhadap Keberlangsungan Usaha (Business Sustainability) Pada UMKM Desa Jatisari. *Jurnal Ilmiah Manajemen & Bisnis*, 18(2), 153-163.
- World Commission On Environment and Development. (1987). *Our Common Future*. Oxford, United Kingdom: Oxford University Press.
- Zheng, F., Ji, Y., Gu, F., Gu, X., & Zhang, J. (2021, August 8th). Patent One-Stop Service Business Model Based on Scientific and Technological Resource Bundle. *IEICE Transactions on Information and Systems*, E104–D(8), pp. 1281-1291.

APPENDICES

Appendix 1: Informant/Participant Interview Transcript

Informant/Participant 1

Interview Questions:

Good morning. With greetings and prayers, I hope that you and your team and family are always in good health and success in carrying out their daily activities. Amin. Let me introduce myself. I am Ary Surya Purnama, a Ph.D. candidate from Selinus University of Sciences & Literature. Previously, I requested your permission and willingness to be a participant/interview resource in my dissertation research, with the title, "DETERMINATION OF SUSTAINABILITY OF THE TIC SERVICE INDUSTRY BUSINESS IN INDONESIA (CASE RESEARCH ON SOE HOLDING SURVEY SERVICES)." On December 9, 2020, I received the principal permit for conducting research in response to my application letter. I've also attached a research proposal, an application letter for research implementation, and a cover letter from the university as a reference. Your answers and responses will only be used for academic purposes and not for other purposes outside the preparation of this dissertation. Likewise, I will also keep your personal information private and not publish it with anyone else without your permission. This research aims to analyze and build synthesis and construction related to the determination of business sustainability of the TIC service industry in Indonesia, through a case research approach to the holding of survey service SOEs, in a complete context, with a thorough understanding. Here are four short interview questions that I asked and require different answers/responses from you:

1. During your career, how are the historical developments, current conditions, and projections of the Indonesian classification & statutory service industry in the future?
2. Based on macro-economic and micro-economic indicators and your expectations, what is the forecast for the business continuity of the classification & statutory service industry in Indonesia?
3. Based on your analysis, is there any influence from aspects of economic performance, environmental performance, and social performance on the business sustainability of the classification & statutory service industry in Indonesia? If so, what kind of effect?

4. What kind of strategic model implementation do you recommend to ensure the sustainability of the classification & statutory service industry business in Indonesia?

That is all that I can say. Thank you very much for your permission and participation in this research.

Interview Feedback:

Good afternoon, and greetings from us. We hope that during the current Covid-19 pandemic, you and your entire family are always given health and happiness. In connection with your aims and objectives in the context of dissertation research with the title, "DETERMINATION OF SUSTAINABILITY OF THE TIC SERVICE INDUSTRY BUSINESS IN INDONESIA (CASE RESEARCH ON SOE HOLDING SURVEY SERVICES)." So, in response to your questions, we will try to explain as follows:

1. During your career, how are the historical developments, current conditions, and projections of the Indonesian classification & statutory service industry in the future?

First, I'll give you some background on BKI's founding. The only National Classification Agency assigned by the Government of the Republic of Indonesia is PT BiroClassification Indonesia (Persero), which was established under the Minister of Sea Transportation's Decree No.1/17/2 dated September 26, 1964, concerning Regulations for Implementing the Obligation for Indonesian-flagged Ships to have a certificate Ship Classification issued by the Indonesian Classification Bureau. The classification activity is classifying ships based on their hull, engine, and electrical systems to provide one of the assessments of the ship's seaworthiness. There isn't a classification body in every country. The marine safety industry, or maintaining the safety of the national maritime sector, is BKI's primary responsibility. BKI offers three services for this purpose: classification services, statutory services, industrial, and commercial services. BKI has penetrated various business sectors, including the Industrial, Marine, and Energy Sectors, as an independent TIC and independent assurance agency. As an independent assurance, BKI Komersil always prioritizes high professionalism, which is backed up by experts from various fields of education and expertise, as well as solid experience, and is backed up by a service network that spans Indonesia, with 19 Class Branches and 13 Commercial Branches. Recognizing that Indonesia's natural conditions, which include thousands of islands and a vast marine territorial

area, make ships the essential means of sea transportation that must be managed and maintained for their seaworthiness, it is necessary to conduct a thorough, regular, and systematic inspection of the sea's condition. Life, ships, objects/loads, and the environment at sea are all protected by ships. Based on data from the Directorate General of Sea Transportation, there are approximately 80 thousand ships of various types and sizes, and the 'Sea Highway,' a government program, is seeing an increase in activities and developments. As a result, the prospects for shipbuilding in Indonesia are improving, resulting in a higher volume of shipbuilding in national shipyards. With the increasing number of IMO Regulations ratified by the Government of the Republic of Indonesia, the legal requirement for Indonesian flag vessels to comply with IMO rules or regulations is becoming more stringent, ensuring that the safety factor for Indonesian flag vessels sailing on international voyages is maintained. BKI has obtained authorization in surveys and statutory certification for ships sailing internationally. BKI is also responsible for improving the performance of Indonesian flagships sailing internationally to be placed on the "white list" of the Tokyo MOU assessment. As a result, many Indonesian flagships will dock at ports in other countries in the future because they have met international requirements or regulations.

2. Based on macro-economic and micro-economic indicators and your expectations, what is the forecast for the business continuity of the classification & statutory service industry in Indonesia?

Because of its geographical location as an archipelagic country, Indonesia has great potential to become the world's maritime axis. The construction of a sea highway is one of the tools available to realize this vision. Given its equatorial location, Indonesia is sandwiched between the two continents of Asia and Australia, the Pacific and Indian oceans, and Southeast Asian countries. The geographical location of Indonesia has made it an international shipping lane. Meanwhile, ship facilities are required on a domestic level to accelerate and expedite logistics routes to all islands in Indonesian waters. In terms of politics, economy, and socio-culture, Indonesia's development of the sea highway program is the right move. The classification and statutory service industry's business sustainability is expected to improve in Indonesia. As a result of the growing number of ships in Indonesia, most IACS member Classification Bodies are eyeing Indonesian-flagged ships to be classified as Foreign Classification Bodies.

3. Based on your analysis, is there any influence from aspects of economic performance, environmental performance, and social performance on the business sustainability of the classification & statutory service industry in Indonesia? If so, what kind of effect?

One of the Sea Highway pillars is maritime infrastructure and maritime connectivity, which has been under construction so far. With the addition of Indonesian flag vessels, which will improve classification and statutory services and improve maritime connectivity, one of the pillars of the Sea Highway is naval infrastructure and marine connectivity, which has been under construction so far. In this case, those related to maritime infrastructure include ports and the construction of power plants that Sea Highway can accelerate to support ports. Many ports will be constructed to aid national logistics routes. As a result, the government is developing parallel infrastructure to support Indonesia's Becoming a World Maritime Axis initiative. For instance, the government's plan to build a 35,000 MW power plant and the development of new industrial areas, particularly in Eastern and Western Indonesia. The construction of toll roads to support land transportation mobility and the structure and revitalization of existing ports. If the classification and statutory industrial business services in support of the marine highway program are realized, Indonesia will become a country with an excellent economic level, and people's purchasing power will automatically increase. Trade activity is rising because of the region's economic development, equitable growth, and high purchasing power. Our economy will grow, and people's well-being will improve.

4. What kind of strategic model implementation do you recommend to ensure the sustainability of the classification & statutory service industry business in Indonesia?

Policies and support programs that are appropriate, effective, and competitive are required. Building and revitalizing shipyards is one program that requires the government's attention. So that our national shipyards can produce or build ships with better quality and on time in the construction process, we do not build ships abroad where there is a "*Capital Flight*" going out to other countries. It is necessary to prepare and develop supporting industries in the maritime sector so that materials and components do not need to be imported from abroad or that foreign products are not used. As a result, the marine support industry has become a "one-stop-shop" for

shipbuilding in Indonesia, with the result that shipbuilding will be more efficient. Including industrial development of safety equipment and components related to marine pollution control and equipment or components that Indonesian flagship must install on ships following international provisions or regulations for compliance with statutory rules. With many Indonesian flagged vessels, the maritime industry's role must be expanded (Indonesia is the 7th largest fleet in the world). So that the classification and statutory factors are met, increasing the safety of people, ships, and cargo, as well as the protection of the maritime environment.

That's all we can say. More or less, we apologize. Thanks for your attention and cooperation.

Informant/Participant 2

Interview Questions:

Good morning sir. With greetings and prayers, I hope that you and your team and family are always in good health and success in carrying out their daily activities. Amin Ya Allah Ya Robbal Alamin. Previously, I requested your permission and willingness to be a participant/interview resource in my dissertation research, with the title, "DETERMINATION OF SUSTAINABILITY OF THE TIC SERVICE INDUSTRY BUSINESS IN INDONESIA (CASE RESEARCH ON SOE HOLDING SURVEY SERVICES)." I've also attached a research proposal, an application letter for research implementation, and a cover letter from the university as a reference. Your answers and responses will only be used for academic purposes and not for other purposes outside the preparation of this dissertation. Likewise, I will also keep your personal information private and not publish it with anyone else without your permission. This research aims to analyze and build synthesis and construction related to the determination of business sustainability of the TIC service industry in Indonesia, through a case research approach to the holding of survey service SOEs, in a complete context, with a thorough understanding. Here are four short interview questions that I asked and require different answers/responses from you:

1. How have the historical developments, current conditions, and future projections of the Indonesian TIC service industry changed over your career?
2. What is the forecast for the TIC service industry's business sustainability in Indonesia, based on macroeconomic and microeconomic indicators and your expectations?
3. Is there any influence from aspects of economic performance, environmental performance, and social performance on the business sustainability of the TIC service industry in Indonesia, according to your analysis? If so, what kind of effect did it have?
4. What strategic model do you think should be implemented to ensure the TIC service industry's long-term viability in Indonesia?

That is all that I can say. Thank you very much for your permission and participation in this research.

Interview Feedback:

Cool, Mas... Good luck, ya.

The following are the answers to the following questions (to be used only as survey material, dissertation reference, and educational use):

1. How have the historical developments, current conditions, and future projections of the Indonesian TIC service industry changed over your career?

In this disruptive/uncertain era, you must be dynamic and adaptable. Surveyors will always be needed as a third party in the producer-consumer relationship if they are not replaced by robotic technology.

2. What is the forecast for the TIC service industry's business sustainability in Indonesia, based on macroeconomic and microeconomic indicators and your expectations?

It is contingent on the country's progress and development in applying robotic technology (up to Artificial Intelligence).

3. Is there any influence from aspects of economic performance, environmental performance, and social performance on the business sustainability of the TIC service industry in Indonesia, according to your analysis? If so, what kind of effect did it have?

Definitely: employee readiness, as well as company leaders' willingness to adapt to societal socioeconomic conditions (transformation leadership, personal / psychological empowerment / EDI, change readiness, and regulations).

4. What strategic model do you think should be implemented to ensure the TIC service industry's long-term viability in Indonesia?

Adaptable and agile.

Good luck for you, Mas Ary.

Geeting healthy.

Informant/Participant 3

Interview Questions:

Good afternoon sir. I wish you, your team, and your family continued good health and success in your daily activities with greetings and prayers. Amin Ya Allah Ya Robbal Alamin. Previously, I requested your permission and willingness to be a participant/interview resource in my dissertation research, with the title, "DETERMINATION OF SUSTAINABILITY OF THE TIC SERVICE INDUSTRY BUSINESS IN INDONESIA (CASE RESEARCH ON SOE HOLDING SURVEY SERVICES)." I've also attached a research proposal, an application letter for research implementation, and a cover letter from the university as a reference. Your answers and responses will only be used for academic purposes and not for other purposes outside the preparation of this dissertation. Likewise, I will also keep your personal information private and not publish it with anyone else without your permission. This research aims to analyze and build synthesis and construction related to the determination of business sustainability of the TIC service industry in Indonesia, through a case research approach to the holding of survey service SOEs, in a complete context, with a thorough understanding. Here are four short interview questions that I asked and require different answers/responses from you:

1. How have the *historical* developments, current conditions, and future projections of the Indonesian TIC service industry changed over your career?
2. What is the *forecast* for the TIC service industry's business sustainability in Indonesia, based on macroeconomic and microeconomic indicators and your expectations?
3. Is there any influence from aspects of economic performance, environmental performance, and social performance on the business sustainability of the TIC service industry in Indonesia, according to your analysis? If so, what kind of effect did it have?
4. What strategic model do you think should be implemented to ensure the TIC service industry's long-term viability in Indonesia?

That is all that I can say. Thank you very much for your permission and participation in this research.

Interview Feedback:

Alhamdulillah..... Congratulations on being a doctoral candidate, Kang. And here's what I can say despite my limitations:

1. TIC services are occasionally required and will continue to be needed as the industrial world grows, requiring stakeholders to ensure quality and quantity to meet the minimum standards they require.
2. Almost identical to the answer above, we are convinced that TIC services will continue to evolve in lockstep with the advancement of civilization, with all business actors ensuring that the products/services they consume or for other needs are regulated in legislation or by other means, including in Indonesia.
3. Of course, TIC will develop in a straight line in response to the growth/performance of these aspects, the size of which is highly dependent on the development/implementation of these aspects.
4. Triangle side, TIC actors must understand the needs of producers and users and the regulations that govern the dynamics of the TIC industry to ensure that every stakeholder's wishes are met.

Please accept my apologies.

Informant/Participant 4 & 5

Interview Questions:

Assalamualaikum, Sir. I wish you, your team, and your family continued good health and success in your daily activities with greetings and prayers. Amen Ya Allah Ya Robbal Alamin. Previously, I requested your permission and willingness to be a participant/interview resource in my dissertation research, with the title, “DETERMINATION OF SUSTAINABILITY OF THE TIC SERVICE INDUSTRY BUSINESS IN INDONESIA (CASE RESEARCH ON SOE HOLDING SURVEY SERVICES)”. I've also attached a research proposal, an application letter for research implementation, and a cover letter from the university as a reference. Your answers and responses will only be used for academic purposes and not for other purposes outside the preparation of this dissertation. Likewise, I will also keep your personal information private and not publish it with anyone else without your permission. This research aims to analyze and build synthesis and construction related to the determination of business sustainability of the TIC service industry in Indonesia, through a case research approach to the holding of survey service SOEs, in a complete context, with a thorough understanding. Here are four short interview questions that I asked and require different answers/responses from you:

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3. Is there any influence from aspects of economic performance, environmental performance, and social performance on the business sustainability of the TIC service industry in Indonesia, according to your analysis? If so, what kind of effect did it have?
4. What strategic model do you think should be implemented to ensure the TIC service industry's long-term viability in Indonesia?

That is all that I can say. Thank you very much for your permission and participation in this research.

Interview Feedback:

1. How have the *historical* developments, current conditions, and future projections of the Indonesian TIC service industry changed over your career?

The historical developments:

- Pre ATE Period (Export Trading Application) before 1990:
 - SUCOFINDO's scope of work is limited to bulk agricultural commodity inspection (pre-containerization);
 - Expansion of the company's services, including marine and insurance surveying, warehousing, engineering, and asset valuation;
 - Since implementing global *shipping containers*, industrial/manufactured and consumer products inspection has increased.
- ATE Period (1990-1999)
 - The government assigns companies to conduct inspections of exported goods by exporters who are taking advantage of the exemption or return of import duty facilities provided by the Export Surveyor Inspection Report;
 - The company's revenue is dominated by revenue from this government contract;
 - The company began to develop laboratory analysis and testing services;
 - Toward the end of this period, *personal computers* and *mini servers* began to take the place of *powerhouse computers*.
- Post ATE Period (2000-2010):
 - The company develops systems certification services. Simultaneously, the company also developed training and systems consulting services;
 - Environmental auditing and laboratory services are evolving in response to rising global environmental concerns;
 - Laboratory testing and product certification services develop along with the implementation of SNI;
 - Government Assignments account for a smaller percentage of total revenue;

- In 2007, the Verification/Technical Investigation of Imports assignment began, and it has continued to this day, contributing significantly to the company's profits;
- The evolution of communication technology, such as GSM and CDMA, touch screens, and the internet, has altered global business practices, including TIC services.

Current Situation:

- The development of information/digital technology has an impact on the market demand for the use of digital modules/devices as well as digital data transactions and exchanges;
- Within the framework of the *sharing economy*, business models, including TIC services, are evolving in a disruptive manner toward a more concise, efficient business model;
- It is critical to developing TIC services in new sectors such as *life science* (including pharmaceutical and medical device manufacturing) and the *circular economy* (*waste management*);
- Changes in business practices resulting from the COVID-19 pandemic marked by minimum social contact will become the *baseline* for post-pandemic business practices.

In the Future:

- In the next decade, TIC company will determine the business model by discovering alternative energies to replace fossil-based energy and the advancement of *artificial intelligence* technology;
- The ability to adapt to the *business driver*, including the TIC company, will determine the business's long-term viability.

2. What is the *forecast* for the TIC service industry's business sustainability in Indonesia, based on macroeconomic and microeconomic indicators and your expectations?

Sustainability Forecast:

- The existence of third-party assurance services (TIC) will continue to be required, both for *compliance* with national and international regulations/standards and as a form of risk mitigation for the transaction's parties;
- TIC firms that have a better chance of maintaining their business continuity are those that:

- Be more adaptable and proactive in responding to information technology and business models changes;
 - Developing services in industrial/business fields where TIC companies have not focused heavily, such as *life science* and *circular business* (including *waste management*);
 - Successfully implemented the concept of *shared resources/shared economy*, in which the company's business activities are carried out in an integrated business process by involving other companies that own resources, competencies, business networks, and individuals.
3. Is there any influence from aspects of economic performance, environmental performance, and social performance on the business sustainability of the TIC service industry in Indonesia, according to your analysis? If so, what kind of effect did it have?

Effect:

- Economical Aspect:

- Economical aspect at the national, regional/regional, and global levels have a significant impact on the long-term viability of the TIC services industry because TIC services are always associated with ensuring economic actors' products/goods and processes/activities;
- The ups and downs of TIC service activities reflect the business/industrial sector served's growth.

- Environmental Performance:

- The TIC service business can benefit from the development/attention to the state of the natural environment. Various audit activities and testing of different environmental quality parameters can be developed from time to time.

- Social performance:

- The development of social conditions in the community can always provide opportunities for TIC services. For example, as the community's socio-economic conditions deteriorate due to natural disasters or pandemics, various initiatives to assist

government and non-governmental institutions have sprung up. TIC companies can monitor aid delivery, verify beneficiary data, Etc.

4. What strategic model do you think should be implemented to ensure the TIC service industry's long-term viability in Indonesia?

Strategic Model:

TIC companies require a strategic model that focuses on the following to ensure their business's long-term viability:

- Activities related to the development of new/renewable energy;
- Effective use of digital modules in enterprise operations (including artificial intelligence/AI/IoT);
- Development of TIC services for the digital industry;
- Development of services targeting the components of *Operational Expenditure* and *Capital Expenditure* in the post of industry/customer expenses;
- Data mastery and monetization.

Informant/Participant 6

Interview Questions:

Good afternoon, Sir. With greetings and prayers, I hope that you and your team and family are always in good health and success in carrying out their daily activities. Amin. Previously, I requested your permission and willingness to be a participant/interview resource in my dissertation research, with the title, "DETERMINATION OF SUSTAINABILITY OF THE TIC SERVICE INDUSTRY BUSINESS IN INDONESIA (CASE RESEARCH ON SOE HOLDING SURVEY SERVICES)." I've also attached a research proposal, an application letter for research implementation, and a cover letter from the university as a reference. Your answers and responses will only be used for academic purposes and not for other purposes outside the preparation of this dissertation. Likewise, I will also keep your personal information private and not publish it with anyone else without your permission. This research aims to analyze and build synthesis and construction related to the determination of business sustainability of the TIC service industry in Indonesia, through a case research approach to the holding of survey service SOEs, in a complete context, with a thorough understanding. Here are four short interview questions that I asked and require different answers/responses from you:

1. What have *historical* developments, current conditions, and future projections of Indonesian *Mining Materials ISP services* changed over your career?
2. What is the *forecast* for the *Mining Materials ISP service* business in Indonesia, based on macroeconomic and microeconomic indicators and your expectations?
3. Is there any impact from aspects of economic performance, environmental performance, or social performance on the long-term viability of the *Mining Materials ISP service* business in Indonesia, according to your analysis? If so, what kind of effect did it have?
4. What strategic model do you recommend for ensuring the long-term viability of Indonesia's *Mining Materials ISP service* business?

That is all that I can say. Thank you very much for your permission and participation in this research.

Interview Feedback:

Kang Haji.

Sorry, just sent.

1. What have *historical* developments, current conditions, and future projections of Indonesian *Mining Materials ISP services* changed over your career?

The development of the mineral world is very dependent on government regulations, especially for ore, but because there are so many variations of mineral commodities, if one of the taps is closed, the miners will switch to other mineral commodities. The current condition in the mineral sector has been directed to semi-finished and finished products. Ore sources that so far can be directly exported have been referred to as processors or smelters to obtain a higher value. In addition to minerals with high main content (Ni, Fe, Cu, Etc.), in the future, it has led to the process of refining minerals with small content (rare earth elements). In addition to domestic needs (battery and RA sources), REE can also be exported. Regulation of the Minister of Trade No. 29 of 2019 has facilitated this possibility, as long as it meets its minimum limits.

2. What is the *forecast* for the *Mining Materials ISP service* business in Indonesia, based on macroeconomic and microeconomic indicators and your expectations?

The global market significantly affects mineral business activities. For example, in the world of Tin, in 2020, the world market price fell so that PT. Timah reduced its production by almost 50% (based on the realization of exports handled by sucofindo) and other mineral commodities. In local sales, HPM is also very influential. Every supplier of ore to the smelter will calculate production costs with the selling value, so HPM must be used as a reference, and there is an HPM supervisory body so that it can be mutually beneficial for both parties. The maintenance of the global market and HPM will affect ISP services.

3. Is there any impact from aspects of economic performance, environmental performance, or social performance on the long-term viability of the *Mining Materials ISP service* business in Indonesia, according to your analysis? If so, what kind of effect did it have?

Every mining company must be consistent in protecting its environment, especially after mining because mining companies cannot compromise nature. It can cause damage and disaster if not handled properly. This is what causes the social environment to conduct demonstrations. Supervision of the post-mining reclamation program is one of the ISP services that miners must fulfil with independent management.

4. What strategic model do you recommend for ensuring the long-term viability of Indonesia's *Mining Materials ISP service* business?

Customer trust is one of the guarantees for the continuity of ISP services, including speed, accuracy, on time and always available. It would be better if we also educate customers/entrepreneurs/customers on all aspects, including regulatory requirements (legality and environmental management), maintaining product quality (maintenance, calibration), production improvement plans (quality and quantity), and market and product development.

Mangga, Kang.

Regards.

Informant/Participant 7

Interview Questions:

Good morning, Sir. With greetings and prayers, I hope that you and your team and family are always in good health and success in carrying out their daily activities. Amin Ya Allah Ya Robbal Alamin. Previously, I requested your permission and willingness to be a participant/interview resource in my dissertation research, with the title, "DETERMINATION OF SUSTAINABILITY OF THE TIC SERVICE INDUSTRY BUSINESS IN INDONESIA (CASE RESEARCH ON SOE HOLDING SURVEY SERVICES)." I've also attached a research proposal, an application letter for research implementation, and a cover letter from the university as a reference. Your answers and responses will only be used for academic purposes and not for other purposes outside the preparation of this dissertation. Likewise, I will also keep your personal information private and not publish it with anyone else without your permission. This research aims to analyze and build synthesis and construction related to the determination of business sustainability of the TIC service industry in Indonesia, through a case research approach to the holding of survey service SOEs, in a complete context, with a thorough understanding. Here are four short interview questions that I asked and require different answers/responses from you:

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3. Is there any influence from aspects of economic performance, environmental performance, and social performance on the business sustainability of the TIC service industry in Indonesia, according to your analysis? If so, what kind of effect did it have?
4. What strategic model do you think should be implemented to ensure the TIC service industry's long-term viability in Indonesia?

That is all that I can say. Thank you very much for your permission and participation in this research.

Interview Feedback:

With prayers for success and health for you and your family. Sorry for not being able to respond.

Here is my response to this question:

1. How have the *historical* developments, current conditions, and future projections of the Indonesian TIC service industry changed over your career?

I've only observed from the last few years (2014-present), but here are some things to highlight:

- According to historical data, Sucofindo's 6-year CAGR was 6.6 percent, which is still below the RJPP target of double digits.
- TIC companies have a high survival rate; no major TIC companies have yet to close.
- A new breed of TIC start-ups has emerged, with a laser-like focus on capturing a piece of Indonesia's TIC market.
- As far as I'm aware, Sucofindo has made a decent profit, excluding the results of the KSO and its subsidiaries, even though its Capex and Opex are higher than those of other TIC companies in Indonesia.
- Survey services are no longer on the Negative Investment List (DNI).

For this reason, I think the Indonesian TIC service industry will become more competitive with big players from abroad, such as SGS, BV, and TUV, coupled with the proliferation of TIC startup companies, especially in the inspection sector. However, there are still many opportunities for developing new services, which can be seen from the growing diversification of services offered by TIC companies. Traditional services are starting to be combined with technology to provide added value for customers.

2. What is the *forecast* for the TIC service industry's business sustainability in Indonesia, based on macroeconomic and microeconomic indicators and your expectations?

According to several experts' opinions that I've read about anomalies in Indonesia's macro and microeconomic indicators, the country's positive macroeconomic trend is at odds with microeconomic conditions at the retail level. Conglomeration, online shopping, and the focus of large government spending on the infrastructure sector are just a few reasons. As a result, I'd like

to invite you to a more clear indicator of each TIC service sector. For example, the BPS released the Indonesian National Income for 2015-2019, which shows that the manufacturing industry and wholesale and retail trade contribute the most, but this sector does not dominate the income of TIC companies. The ability of TIC companies to gain positions in the supply chain, in my opinion, has a significant impact on the sustainability of the TIC industry service business in Indonesia, and TIC companies still have many opportunities to grow. Apart from that, both consumers and producers are more aware of the importance of quality products, which necessitates assurance services.

3. Is there any influence from aspects of economic performance, environmental performance, and social performance on the business sustainability of the TIC service industry in Indonesia, according to your analysis? If so, what kind of effect did it have?

Here's what I found:

- Economic performance related to the achievement of indicators from a financial perspective will certainly greatly influence the decisions of top management in determining policies and strategies for business continuity. Top management can analyze the financial performance of each business unit to determine the future of the business unit.
- I interpret environmental performance as a form of compliance with external regulations such as PROPER. It should not be enough for TIC companies to comply but go beyond compliance. Why? In terms of TIC's corporate image, companies that work to meet standards and even certify other companies will undoubtedly be a benchmark for their customers. Furthermore, the company's operations frequently involve activities that conflict with environmental laws. Furthermore, stakeholders, particularly external stakeholders, strongly influence environmental performance satisfaction, and regulators have significant power in determining a company's long-term viability. Because business continuity is at stake, TIC companies must ensure that environmental policies adhere to established regulations.
- Social performance indicators will differ slightly between SOE and private TIC companies, with SOE companies also taking on social responsibility mandated by the SOE ministry, which serves a service function in addition to commercial goals.

Of the three aspects above, all of them influence business continuity. However, in my opinion, economic performance has a more significant influence because, apart from sustainability, there are also growth opportunities, while environmental and social performance is more of a risk that the TIC industry must mitigate. The balance between the costs incurred to maintain social and ecological performance and expenses related to revenue needs to be maintained so that the company continues to grow.

4. What strategic model do you think should be implemented to ensure the TIC service industry's long-term viability in Indonesia?

The differentiation strategy has been proven to maintain the performance of TIC companies through times of crisis, the most recent of which is the Covid19 pandemic. However, there has been a decline in revenue in services related to the retail and tourism sectors, and the TIC industry can maintain it in other business units related to health and natural resources that are still needed. The differentiation strategy must be supported by technology (product and process) leadership and innovation to anticipate changes in customer behavior. TIC Service industry should remember that TIC services are available if there are two or more parties who need assurance services, but technology in the field of inspection and testing has become more advanced and inexpensive, it is not difficult to get water content and pH test equipment and even surveillance drones and it is sufficient for customer needs. To ensure the continuity of the TIC industry, the regulator will play an essential role as a market creator. TIC industry cannot deny that the TIC industry lives to regulations and standards, for those strategic partnerships must continue to be strengthened, for example, the establishment of a survey service holding in Indonesia as a form of collaboration and cooperation with the government to improve the position of Indonesian TIC service companies and maintain regulations that support it. That's all I can say. I hope you like it and if there are shortcomings, please understand. Thank you for the honor given, and good luck with your dissertation.

Informant/Participant 8

Interview Questions:

Good morning, Sir. With greetings and prayers, I hope that you and your team and family are always in good health and success in carrying out their daily activities. Amin Ya Allah Ya Robbal Alamin. Previously, I requested your permission and willingness to be a participant/interview resource in my dissertation research, with the title, "DETERMINATION OF SUSTAINABILITY OF THE TIC SERVICE INDUSTRY BUSINESS IN INDONESIA (CASE RESEARCH ON SOE HOLDING SURVEY SERVICES)." I've also attached a research proposal, an application letter for research implementation, and a cover letter from the university as a reference. Your answers and responses will only be used for academic purposes and not for other purposes outside the preparation of this dissertation. Likewise, I will also keep your personal information private and not publish it with anyone else without your permission. This research aims to analyze and build synthesis and construction related to the determination of business sustainability of the TIC service industry in Indonesia, through a case research approach to the holding of survey service SOEs, in a complete context, with a thorough understanding. Here are four short interview questions that I asked and require different answers/responses from you:

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4. What strategic model do you think should be implemented to ensure the TIC service industry's long-term viability in Indonesia?

That is all that I can say. Thank you very much for your permission and participation in this research.

Interview Feedback:

Following up on your question, I, at this moment, present the answers:

- Historically, TIC services in Indonesia have developed in scope and commodities. In current conditions, several things are also developing related to this service, such as the need for e-guarantees, assurance in the context of halal schemes, the demand for TIC services in the context of implementing the Job Creation Law in the context of risk mapping, and assurance services in the environmental context. In its development, TIC services have also entered the Industry 4.0 era, where IT technology is increasingly dominant in the implementation methodology.
- TIC services in macro and micro is one of the services that did not experience a decline except for a few sub-portfolios. Sucofindo, as one of the TIC companies in Indonesia in 2020, experienced revenue growth in 2019. On a macro basis, this service potential has a market in environmental aspects, the Sharia economic sector, the renewable energy and mineral sector, the investment sector (open the negative investment list), and import reduction policies.
- The effect from:
 - Aspects of economic performance
Government policies to encourage growth in economic performance, such as the disbursement of National Economic Recovery funds in the infrastructure, tourism, SME, and Health sectors, as well as incentive efforts in the fiscal and tax industries, will create opportunities for TIC services to diversify, derive, and enrich services. TIC services support the achievement of economic growth performance. TIC service can obtain this potential from laboratory testing for medical devices and the electric car industry, verification of health standards and tourism industry services, including those related to halal tourism, verification and certification related to renewable energy (solar, geothermal, wind, battery), e-assurance. For the financial sector.
 - Aspects of environmental performance
Environmental concerns and the world community are growing, and this has led to new requirements for ecological aspects in various sectors, such as emission requirements, environmental audits, waste management, and the impact of the requirements for the Job Creation Law. This affects changes and the need for services carried out by TIC Companies, such as Environmental Audit services, ESIA-based Environmental Management Plan

Verification for Investments, Emissions Verification for the Air to Europe (Lvv) transportation sector, waste management services, and waste remediation.

- Social sector policies such as the concept of social assistance schemes, the idea of education, and assistance schemes to MSMEs create a potential for data verification and validation services to support government performance in this sector.
- Strategy of Innovation, Digitization, and Cost-Effectiveness.
 - The Innovation Strategy is the ability of TIC business actors to develop and enrich services according to market needs regarding the vital role of TIC aspects in their industry.
 - Digitization strategy is to create work methods through digitization so that the TIC industry can achieve quality and speed of service according to market expectations.
 - Accrual basis cost management strategy is carried out by correctly calculating the costs of all aspects of developing and operating the TIC so the TIC Industry can control that risk and the TIC Industry can obtain market potential.

That's all I can answer. Sorry to say it's injury time. Good luck.

Thanks.

Regards.

Appendix 2 : Imported Data Sources on QSR NVivo 12 Plus

Depth-Interview

Name	Codes	References	Modified On	Modified By	Classification
Transkrip Respon Wawancara from Mr Ace to Ary 2021		7	4/20/2021 8:11 AM	KH	
Transkrip Respon Wawancara from Mr M. Jufri to Ary 2021		4	4/20/2021 8:11 AM	KH	
Transkrip Respon Wawancara from Mr Nurbeta to Ary 2021		12	4/20/2021 8:11 AM	KH	
Transkrip Respon Wawancara from Mr Soleh to Ary 2021		14	4/20/2021 8:11 AM	KH	
Transkrip Respon Wawancara from Mr Surahman to Ary 2021		16	4/20/2021 8:11 AM	KH	
Transkrip Respon Wawancara from Mr. Arif Budi Permana BKI to Ary 2021		11	4/20/2021 8:11 AM	KH	
Transkrip Respon Wawancara from Mr. Silitonga to Ary 2021		6	4/20/2021 8:11 AM	KH	

Company Profile

Name	Codes	References	Modified On	Modified By	Classification
BKI Company Profil 2019		0	12/15/2020 3:00 PM	KH	
BKI Company Profil 2020		0	12/15/2020 3:00 PM	KH	
Company Profile BKI		0	12/15/2020 3:00 PM	KH	
Survey Services Product Certification SOE Synergy		0	12/15/2020 3:00 PM	KH	
Company Profile SCI		0	12/15/2020 3:18 PM	KH	
Corporate Brosur SCI		0	12/15/2020 3:18 PM	KH	
Integritas Membangun Negeri -25 Tahun PT Surveyor Indonesia Berkarya		0	12/15/2020 3:42 PM	KH	

Corporate Document

Name	Codes	References	Modified On	Modified By	Classification
TIC-OUTLOOK-PORTOFOLIO-(s.d Apr 2020)		0	1/27/2021 10:32 AM	KH	
TIC-OUTLOOK-PORTOFOLIO		0	1/27/2021 10:32 AM	KH	
260820 Bahan Sosialisasi Progress Holding JS_rev01		0	1/27/2021 10:33 AM	KH	
090920_RJPP KLASSTER JASA SURVEY 2020-2024 Versi Arahkan Wamen-6		0	2/18/2021 11:20 AM	KH	
20200810_Buku RJPP SUCOFINDO 2020-2024_Pasca Covid		0	2/18/2021 11:20 AM	KH	
Buku Kajian Holding BUMN JS_REV25Agus		0	2/18/2021 11:20 AM	KH	
Buku RJPP 2020-2024 Pra Covid (KPMG)		0	2/18/2021 11:20 AM	KH	
Integration Management Office (IMO)_BUMN Jasa Survei		0	2/18/2021 11:20 AM	KH	
PPT RJPP 2020-2024 Pra Covid (KPMG)		0	2/18/2021 11:20 AM	KH	

Corporate Report

Appendix 3 : Nodes and Cases on QSR NVivo 12 Plus

Nodes Search Project

Name	Files	Referenc	Created On	Created B	Modified On	Modified B
Faktor aspek kinerja ekonomi yang mempengaruhi keberlanjutan usaha industri jasa TIC Ind	0	0	1/27/2021 11:16 A	KH	4/20/2021 8:10 A	KH
Intervensi kebijakan pemerintah	2	2	4/20/2021 11:53 A	KH	4/22/2021 10:51 A	KH
Pembangunan infrastruktur	1	1	4/22/2021 11:03 A	KH	4/22/2021 11:06 A	KH
Kondisi ekonomi nasional, regional dan global	1	1	4/20/2021 1:08 PM	KH	4/20/2021 1:08 PM	KH
Fluktuasi & pertumbuhan usaha pengguna layanan TIC	1	1	4/20/2021 1:10 PM	KH	4/20/2021 1:10 PM	KH
Kinerja finansial unit bisnis	1	1	4/20/2021 3:20 PM	KH	4/20/2021 3:20 PM	KH
Pasar & harga	1	1	4/20/2021 10:24 A	KH	4/20/2021 1:07 PM	KH
Faktor aspek kinerja lingkungan yang mempengaruhi keberlanjutan usaha industri jasa TIC I	0	0	4/20/2021 10:03 A	KH	4/20/2021 10:03 A	KH
Concern masyarakat dunia akan issue lingkungan	2	2	4/20/2021 11:56 A	KH	4/20/2021 1:15 PM	KH
Program reklamasi pasca tambang	1	1	4/20/2021 10:20 A	KH	4/20/2021 11:57 A	KH
Image & benchmark	1	1	4/20/2021 3:27 PM	KH	4/20/2021 3:28 PM	KH
International Regulatory Compliance	1	1	4/22/2021 11:19 A	KH	4/22/2021 11:56 A	KH
Kewenangan Regulator	1	1	4/20/2021 3:29 PM	KH	4/20/2021 3:29 PM	KH

Nodes Search Project

Name	Files	Referenc	Created On	Created B	Modified On	Modified B
Faktor aspek kinerja sosial yang mempengaruhi keberlanjutan usaha industri jasa TIC Indone	0	0	4/20/2021 10:03 A	KH	4/20/2021 10:03 A	KH
Corporate Social Responsibility	1	1	4/20/2021 3:30 PM	KH	4/20/2021 3:31 PM	KH
Government Social Responsibility	1	1	4/20/2021 12:02 P	KH	4/20/2021 12:04 P	KH
Kondisi sosial masyarakat	2	2	4/20/2021 1:18 PM	KH	4/22/2021 12:13 P	KH
Daya beli masyarakat	1	1	4/22/2021 11:30 A	KH	4/22/2021 11:31 A	KH
Kesadaran masyarakat atas produk bermutu	1	1	4/20/2021 3:16 PM	KH	4/20/2021 3:16 PM	KH
Forecast keberlanjutan usaha industri jasa TIC Indonesia	0	0	1/27/2021 11:02 A	KH	4/20/2021 10:04 A	KH
Akan meningkat	1	1	4/22/2021 10:59 A	KH	4/22/2021 10:59 A	KH
Ditentukan oleh kemampuan industri jasa TIC atas beberapa kriteria	0	0	4/20/2021 12:44 P	KH	4/20/2021 2:58 PM	KH
Adaptif dan antisipatif	2	4	4/20/2021 12:52 P	KH	4/22/2021 12:15 P	KH
Inisiatif pengembangan jasa secara intensif	1	1	4/20/2021 12:55 P	KH	4/20/2021 12:55 P	KH
Mendapatkan posisi dalam supply chain	1	1	4/20/2021 2:59 PM	KH	4/20/2021 3:00 PM	KH
Penerapan konsep shared resources & shared economy	1	1	4/20/2021 12:56 P	KH	4/20/2021 12:56 P	KH
Tetap dibutuhkan	3	3	4/20/2021 11:11 A	KH	4/22/2021 12:07 P	KH

Nodes Search Project

Name	Files	Referenc	Created On	Created B	Modified On	Modified B
Kondisi terkini industri jasa TIC Indonesia	0	0	1/27/2021 10:46 A	KH	4/20/2021 8:10 A	KH
Anomali indikator makro-mikro ekonomi Indonesia	1	1	4/20/2021 3:09 PM	KH	4/20/2021 3:18 PM	KH
International authorization & recognition	1	1	4/22/2021 11:25 A	KH	4/22/2021 11:26 A	KH
Masuk pada era digital Industri 4.0	4	5	4/20/2021 11:38 A	KH	4/22/2021 12:09 P	KH
Perubahan praktik bisnis & model bisnis baru	1	3	4/20/2021 12:34 P	KH	4/21/2021 4:07 PM	KH
Diarahkan kepada produk setengah jadi dan jadi	1	1	4/20/2021 10:10 A	KH	4/20/2021 10:10 A	KH
Model strategi dalam rangka menjamin keberlanjutan usaha industri jasa TIC Indonesia	0	0	4/20/2021 10:04 A	KH	4/20/2021 10:04 A	KH
Cost Effectiveness Strategy	1	1	4/20/2021 12:07 P	KH	4/20/2021 12:08 P	KH
Focus Strategy	1	1	4/20/2021 1:23 PM	KH	4/20/2021 1:25 PM	KH
Innovation strategy	1	1	4/20/2021 12:05 P	KH	4/22/2021 11:42 A	KH
Differentiation	1	1	4/20/2021 3:50 PM	KH	4/22/2021 11:41 A	KH
Digitization	1	1	4/22/2021 11:42 A	KH	4/22/2021 11:43 A	KH
Stakeholders Based Approach	1	1	4/20/2021 11:21 A	KH	4/20/2021 11:22 A	KH
Customer Intimacy Strategy	1	1	4/20/2021 10:29 A	KH	4/20/2021 11:26 A	KH
One Stop Service	1	1	4/22/2021 11:14 A	KH	4/22/2021 11:14 A	KH
Strategic partnership	1	1	4/20/2021 3:51 PM	KH	4/20/2021 3:52 PM	KH
Strategies for Addressing Capital Flight	1	1	4/22/2021 11:11 A	KH	4/22/2021 11:12 A	KH

Nodes Search Project

Name	Files	Referenc	Created On	Created B	Modified On	Modified B
Perkembangan historical industri jasa TIC Indonesia		0	12/22/2020 10:02 A	KH	4/20/2021 10:08 A	KH
Baru berkembang sejak 60 tahun yang lalu		1	1/27/2021 10:57 A	KH	1/27/2021 10:57 A	KH
Dinamis dalam 3 periode		2	4/20/2021 12:28 P	KH	4/22/2021 12:19 P	KH
Memiliki tingkat survive yang baik		2	4/20/2021 11:42 A	KH	4/20/2021 2:22 PM	KH
Pertumbuhan Revenue & Profit		2	4/20/2021 11:43 A	KH	4/20/2021 3:59 PM	KH
Sangat bergantung pada regulasi		4	4/20/2021 10:07 A	KH	4/22/2021 10:42 A	KH
Proyeksi industri jasa TIC Indonesia di masa depan		0	1/27/2021 10:51 A	KH	4/20/2021 8:10 A	KH
Memiliki potensi pada beberapa sektor baru		4	4/20/2021 11:46 A	KH	4/22/2021 10:49 A	KH
Mengikuti kemajuan peradaban based on market demand		1	4/20/2021 11:13 A	KH	4/20/2021 4:05 PM	KH
Mengarah pada proses pemurnian mineral dengan kandungan kecil		1	4/20/2021 10:11 A	KH	4/20/2021 10:12 A	KH
Menjadi lebih kompetitif		1	4/20/2021 2:33 PM	KH	4/20/2021 3:06 PM	KH

Cases Search Project

Name	Files	References	Modified On	Modified By	Classification
Ace Khaerudin		1	4/20/2021 9:11 AM	KH	Partisipant
Arif Budi Permana		1	4/20/2021 9:11 AM	KH	Partisipant
M. Jufri		1	4/20/2021 9:11 AM	KH	Partisipant
M. Surahman		1	4/20/2021 9:11 AM	KH	Partisipant
Nurbeta Kurniawan		1	4/20/2021 9:11 AM	KH	Partisipant
Ronny Reinhard Silitonga		1	4/20/2021 9:11 AM	KH	Partisipant
Soleh Rusyadi Maryam		1	4/20/2021 9:13 AM	KH	Partisipant

Case Classifications Search Project

Name	Created On	Created By	Modified On	Modified By
Partisipant	4/20/2021 8:59 AM	KH	4/20/2021 9:10 AM	KH

Name	Type	Created On	Created By	Modified On	Modified B
TIC Sector	Text	4/20/2021 9:05 AM	KH	4/20/2021 9:05 AM	KH
Company	Text	4/20/2021 9:06 AM	KH	4/20/2021 9:06 AM	KH
Work Location	Text	4/20/2021 9:08 AM	KH	4/20/2021 9:08 AM	KH

Partisipant Search Project

Name	Location	Files	References	Modified On	Modified By
Ace Khaerudin	Cases\\		1	4/20/2021 9:11 AM	KH
Attribute	Value				
TIC Sector	TIC for Mining & Mineral				
Company	PT Superintending Company of Indonesia (PERSERO)				
Work Location	Jakarta, Indonesia				
New Attribute					
Arif Budi Permana	Cases\\		1	4/20/2021 9:11 AM	KH
Attribute	Value				
TIC Sector	TIC for Statutory & Ship Classification				
Company	PT Biro Klasifikasi Indonesia (PERSERO)				
Work Location	Jakarta, Indonesia				
New Attribute					
M. Jufri	Cases\\		1	4/20/2021 9:11 AM	KH
Attribute	Value				
TIC Sector	TIC for Coal Industries				
Company	PT Superintending Company of Indonesia (PERSERO)				
Work Location	Kalimantan, Indonesia				

- ★ Quick Access
 - Files
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 - Nodes
- Cases
 - Cases
 - Case Classifications
 - Partisipant
- Notes
 - Memos
 - Framework Matrices
 - Annotations
 - See Also Links
- Search
- Maps
 - Maps
- Output
 - Reports
 - Extracts

Partisipant						
Name	Location	Files	References	Modified On	Modified By	
M. Surahman	Cases\\		1	1 4/20/2021 9:11 AM	KH	
Attribute						
Value						
TIC Sector	TIC for Mining & Mineral					
Company	PT Superintending Company of Indonesia (PERSERO)					
Work Location	Papua, Indonesia					
New Attribute						
Nurbeta Kurniawan	Cases\\		1	1 4/20/2021 9:11 AM	KH	
Attribute						
Value						
TIC Sector	TIC for Ecoframework					
Company	PT Superintending Company of Indonesia (PERSERO)					
Work Location	Jakarta, Indonesia					
New Attribute						
Ronny Reinhard Silitonga	Cases\\		1	1 4/20/2021 9:11 AM	KH	
Attribute						
Value						
TIC Sector	General TIC					
Company	PT Superintending Company of Indonesia (PERSERO)					
Work Location	Jakarta, Indonesia					
New Attribute						

- ★ Quick Access
 - Files
 - Memos
 - Nodes
- Cases
 - Cases
 - Case Classifications
 - Partisipant

Partisipant						
Name	Location	Files	References	Modified On	Modified By	
Soleh Rusyadi Maryam	Cases\\		1	1 4/20/2021 9:13 AM	KH	
Attribute						
Value						
TIC Sector	General TIC					
Company	PT Superintending Company of Indonesia (PERSERO)					
Work Location	Jakarta, Indonesia					
New Attribute						

Appendix 4 : Word Tree of the Use of the Word “Business Sustainability” in Research Data Sources

