

Marketing Capability as a Source of Sustainable Competitive Advantage from the Perspective of Resource-Based Theory in Telecommunication Companies in Indonesia

Devid Saputra^{1,2,3*}, Emil Fadilah¹, Ilham Mendrofa¹

¹IPB University Business School, Bogor, Indonesia

²Master of Information Technology, Pamulang University, South Tangerang, Indonesia

³Faculty of Da'wah and Communication Sciences, UIN Raden Intan Lampung, Indonesia

Corresponding author e-mail: devidsaputra.apps@ipb.ac.id

ARTICLE INFO	ABSTRACT
Keywords: Brand Equity, Customer Equity, Marketing Capability, Resource-Advantage Theory, Resource-Based Theory, Sustainable Competitive Advantage DOI: 10.22437/jssh.v10i1.56533 Received: April 28th, 2026 Reviewed: May 5th, 2026 Accepted: June 10th, 2026	This study aims to analyze how leading telecommunications companies in Indonesia, PT Telkom Indonesia Tbk, PT Indosat Ooredoo Hutchison Tbk (IOH), PT XLSMART Telecom Sejahtera Tbk, and PT Dayamitra Telekomunikasi Tbk (Mitratel) transform internal resources and capabilities into market-based assets as a basis for sustainable competitive advantage in the period 2022–2025. Using a qualitative document analysis on official annual reports, the framework combines Resource-Based Theory and VRIO Framework with Resource-Advantage Theory of Competition, market-based assets, brand equity, customer equity, marketing capabilities, and service-dominant logic. Findings show that competitive differentiation is increasingly determined by market-based relational and intellectual assets, rather than solely physical asset ownership. IOH built its advantage through "AI-Native TechCo" brand positioning and a volume-to-value strategy, increasing ARPU by 19% and improving customer equity. XLSMART achieved a post-merger jump in customer equity but faces brand integration challenges. Telkom maintained its brand equity and large converged service cross-selling opportunities, while Mitratel relied on its neutral provider reputation and ESG credentials to strengthen long-term B2B relationships. Socially complex brand and customer equity provide a stronger foundation for sustainable competitive advantage. The theoretical contribution is positioning marketing capabilities as the connecting mechanism that transforms RBT resources into market value.

Copyright (c) 2026 JSSH



1. Introduction

The Indonesian telecommunications industry is at an unprecedented inflection point. Over a three-year period (2022-2025), the sector is experiencing four simultaneous waves of transformation: accelerated adoption of 5G technology, operator consolidation through mergers and acquisitions, the penetration of artificial intelligence (AI) into all operational layers, and

intensified pressure from the sustainability agenda (Environmental, Social, and Governance/ESG). In this regard, Resource-Based Theory (RBT) emerges as the most relevant analytical lens for understanding these dynamics. RBT, which has its intellectual roots in Edith Penrose's work in 'The Theory of the Growth of the Firm' (1959), holds that a firm's competitive advantage stems from the ownership and management of valuable, rare, difficult-to-imitate, and non-substitutable internal resources (J. Barney, 1991). This perspective is fundamentally different from the industry-based approach popularized by Porter (Weil, 1985 & Leo, 1982), which emphasizes the firm's external position within the industry structure.

The relevance of RBT in Indonesian telecommunications is increasing along with significant differentiation among operators in terms of ownership and utilization of resources. Data from the 2025 annual report shows that Telkom Indonesia has total assets of IDR 287.7 trillion with a BTS network reaching 293,136 units, while Mitratel has successfully expanded its fiber optic network from 6,000 km to 57,199 km. On the other hand, the merger between XL Axiata and Smartfren resulted in the new entity XLSMART with 225,649 BTS and a customer base of 73 million people, meanwhile IOH positions itself as the first 'AI-Native TechCo' in Indonesia with Sovereign AI infrastructure. These fundamental differences raise a compelling research question: Can the differences in performance and competitive position of these four companies be explained by variations in the ownership, development, and orchestration of their resources and capabilities? This question becomes even more relevant given that in 2025, the industry experienced significant profit pressure, with Telkom recording a 14.1% decline in net profit while XLSMART reported a net loss of IDR 4.41 trillion, though simultaneously, several companies managed to increase EBITDA and expand their asset base.

This paradox between asset expansion and profitability pressure suggests that the possession of resources alone does not guarantee competitive advantage but rather how those resources are organized, combined, and capabilityized determines competitive outcomes (J.B. Barney, 2001 & Teece et al., 1997). This aligns with recent developments in the RBT literature that emphasize the importance of 'dynamic capabilities' as a firm's meta-capabilities to integrate, build (Leelhaphunt, 2025), and reconfigure internal and external competencies to respond to rapid environmental change (Teece, 2007 & Eisenhardt, 1989). A review of the four companies' annual reports for the 2022-2025 period provides a rich natural laboratory for testing these propositions. First, this period captures the transition from 4G to 5G network generations requiring major resource reconfiguration. Second, it encompasses the aftermath of the IOH merger (between Indosat and Hutchison 3 Indonesia in 2022) and the XLSMART merger (in 2024-2025), providing a contrast in resource consolidation management. Third, this period witnessed the intensification of AI use across the telecommunications value chain, creating a new dimension in competition based on intangible resources.

Previous research on RBT in the telecommunications industry has generally focused on developed countries (DeCastro, 2001, Gruber & Verboven, 2001, and Vorhies & Morgan, 2005) or on specific aspects such as technology adoption (Amit & Schoemaker, 1993) and service innovation (Makadok, 2001). Research in the context of developing countries, particularly Indonesia, is still relatively limited and not much has comprehensively explored how digital transformation and ESG are changing the competitive resource landscape. Furthermore, most RBT studies employ quantitative approaches based on panel data or surveys (Nastasi et al., 2025), while qualitative approaches based on document analysis, which allow for in-depth understanding of strategic narratives, resource choices, and capability processes, are still relatively rare. Yet, annual reports, as audited public documents, are a rich, valid, and comparable source of data for uncovering corporate resource strategies from a longitudinal perspective.

Based on the research gaps and unique conditions described above, this study aims to provide original empirical and theoretical contributions through an in-depth, document-based analysis of four leading telecommunications companies in Indonesia during the period 2022-2025. This research is expected to not only confirm or refute existing RBT propositions but also develop a new conceptual model that integrates digital, human, and sustainability dimensions in analyzing competitive advantage in the industry 5.0 era.

This research is expected to provide benefits to enriching the literature on Resource-Based Theory with the context of the Indonesian telecommunications industry which is undergoing massive digital transformation, developing analytical models that integrate AI, ESG, and dynamic capabilities dimensions into one comprehensive framework, and contribute to the development of document-based qualitative research methodology in strategic management science. In practical, this study contributes to provides strategic guidance for the management of Indonesian telecommunications companies in identifying, developing, and orchestrating resources for competitive advantage; provides a comprehensive benchmark that can be used by investors, industry analysts, and regulators in evaluating the competitive position of telecommunications companies; and to be a reference for telecommunications companies in designing optimal post-merger integration strategies from a resource management perspective.

The novelty of this research lies in three main aspects. First, this study offers a novel RBT framework by incorporating digital layers (AI and data), sustainability layers (ESG), and ecosystem orchestration capabilities specifically for the Southeast Asian telecommunications context. Second, develops a replicable Structured Document Analysis Protocol (SDAP) designed to systematically extract and code tangible, intangible, human, organizational, and dynamic capabilities from annual reports. Third, delivers the first integrated longitudinal comparative analysis (2022-2025) evaluating four distinct corporate resource profiles: an incumbent (Telkom), post-merger entities (IOH and XLSMART), and an infrastructure specialist (Mitratel).

2. Literature Review

2.1 Resource-Based Theory (RBT)

Resource-Based Theory (RBT) is one of the most influential theories in strategic management science of the 20th and 21st centuries (Apriliyanti, 2022) . Its intellectual roots can be traced to Edith T. Penrose's monumental work, 'The Theory of the Growth of the Firm' (1959) (Penrose, 2017) , which views the company not merely as a production unit that combines input factors (Robb et al., 2025) , but as 'a collection of productive resources' whose productivity is determined by how management identifies and exploits opportunities for the use of unoptimized resources (Samadhiya & Agrawal, 2024) .

Penrose's contribution was revolutionary because it shifted the focus of analysis from the external environment to the firm's internal capacity as a determinant of growth and profitability (Lau & Michie, 2024) . Penrose argued that each firm is fundamentally unique because it possesses 'productive services (Bailly & Dubrion, 2026). This was the seed of the concept of resource heterogeneity, which later became the foundation of modern RBT.

A further development occurred when Wernerfelt (1984) published an article which explicitly used the term 'resource-based view' and formalized the idea that a firm's resources can be a barrier to entry equivalent to the product's position in the market. This study introduced the concept of the 'resource-product matrix' (Liu, 2024). The most significant breakthrough in the development of RBT came from J.B. Barney (1986). Barney proposed a systematic analytical framework by identifying four resource attributes: Valuable, Rare, Inimitable, and Non-Substitutable, known as the VRIN criteria. Barney also classified resources into three categories: physical capital resources, human capital resources, and organizational capital

resources (J. Barney, 1991 & Lubis, 2022). Barney then revised the VRIN framework to VRIO (JB Barney & Clark, 2007 and Paul & Mathew, 2025)

Dierickx and Cool (1989) added the 'stock and flow' dimension to the analysis of strategic assets (Dierickx & Cool, 1989). Amit & Schoemaker (1993) developed the concept of 'strategic assets' and introduced the dimension of 'appropriability' as an additional requirement (Amit & Schoemaker, 1993). Mahoney & Pandian (1992) synthesized RBT with other theories such as evolutionary theory and transaction cost economics to develop a more comprehensive understanding (Mahoney & Pandian, 1992).

Resource classification is a fundamental element in RBT analysis (Utami & Alamanos, 2022). J. Barney (1991) classifies resources into three main categories: Physical Capital Resources (Amaya et al., 2024); Human Capital Resources (Aziegbe-Esho, 2024); and Organizational Capital Resources (Monteiro et al., 2023). Grant (1991) developed a more detailed classification by adding technological and reputational resources. Furthermore, intangible resources have received particular attention post-2000 (Ndlovu et al., 2025) where Hall (1992, 1993) distinguishes between intangible assets and skills.

2.2 Isolation Mechanisms and Sustainable Competitive Advantage

The concept of 'isolating mechanisms' introduced by Rumelt (1984) is a crucial contribution in explaining how competitive advantage can be maintained in the long term. Isolating mechanisms are barriers that prevent competitors from eliminating the profit differential obtained by a company (Rumelt, 1997). In the context of RBT, isolating mechanisms can stem from three main mechanisms (Iliyas & Barca, 2025): (1) causal ambiguity, (2) path dependence; and (3) social complexity. Barney (1991) identified three conditions that make imitation difficult. They are unique historical conditions, causal ambiguity, and social complexity. In contemporary times, the concept of sustainable competitive advantage has begun to be challenged by those who argue that in increasingly dynamic and hypercompetitive environments, competitive advantage is essentially temporary (D'Aveni, R. A, 1994).

2.3 Dynamic Capabilities Framework and VRIO

The Dynamic Capabilities Framework was developed by Teece et al (1997). This framework arose from the realization that conventional RBT, which emphasizes the ownership of static resources, is less able to explain how companies maintain competitive advantage in a rapidly changing business environment. Teece (2007) defines dynamic capabilities as 'the ability to integrate, build, and reconfigure internal and external competencies to respond to a rapidly changing environment. It is characterized by three clusters: sensing, seizing and transforming. However, arguing that dynamic capabilities are essentially idiosyncratic best practices, opening a debate on whether they are a source of competitive advantage or simply a prerequisite for survival in dynamic environments (Eisenhardt & Martin, 2017).

In the Indonesian telecommunications sector (2022-2025), these dynamic capabilities are clearly manifested through major strategic transformations. This is demonstrated by IOH's ability to transform into an 'AI-Native TechCo,' Mitratel's transition from a tower company to a Digital Infrastructure Provider, XLSMART's integration of two different corporate cultures and infrastructures, and Telkom's reorganization from an operating company to a Strategic Holding while maintaining service quality.

2.4 VRIO Framework

The VRIO Framework is an analytical tool developed by Barney to operationalize resource evaluation in the context of competitive advantage. This framework questions four key attributes of each resource or capability (JB Barney, 2000). Valuable explains does the resource

or capability enable the company to exploit environmental opportunities or neutralize environmental threats? If it is not valuable, the resource cannot be a source of competitive advantage. In the telecommunications industry, 5G infrastructure is valuable because it enables the offering of premium services that corporate customers demand. Rare identifies how many competitors already possess this valuable resource or capability? A resource held by many competitors will only result in competitive parity, not superiority. IOH's ownership of Sovereign AI infrastructure is an example of a rare resource in the Indonesian telecommunications industry. Inimitable explains does a company lacking the resource or capability face a cost disadvantage in acquiring or developing it? Scarcity alone is not enough; an advantage is only sustainable if competitors face significant barriers to imitation. Mitratel's 57,199 km of fiber optic network is a difficult-to-imitate resource, requiring massive investment and a significant timeframe. Organized: Are company policies and procedures organized to support the exploitation of valuable, rare, and difficult-to-imitate resources and capabilities? Without proper organization, resource potential cannot be fully realized. The reorganization of Telkom's business segments in 2025 into B2C, B2B ICT, B2B Infra, and International is an effort to organize resources more efficiently.

2.5 Resource-Advantage Theory of Competition

Resource-Advantage Theory views competition as a disequilibrating evolutionary process, in which firms continually seek to gain comparative advantage in resources that will result in a market position of competitive advantage, and in turn, superior financial performance (Hunt & Morgan, 1995). This causal chain is circular. Unlike classical RBT, RA Theory explicitly integrates demand heterogeneity; firms do not compete for the market in general, but rather for specific market segments with different preferences (Hunt & Morgan, 1996). Hunt & Morgan (1996) classify resources into seven categories: financial, physical, legal, human, organizational, informational, and relational. The last two categories of resources are the most central to marketing management and, as will be shown, most prominent in the competitive differentiation of Indonesian telecommunications companies.

2.6 Market-Based Assets and Marketing Capabilities

The concept of market-based assets introduced by Srivastava et al (1998) strengthens the link between resources and market value. They classify market-based assets into two types: relational market-based assets and intellectual market-based assets (Srivastava et al., 1998 and Kohli & Jaworski, 1990). These assets are generally intangible and not recorded on the balance sheet, but they create value through four mechanisms. They are accelerating cash flow, increasing the magnitude of cash flow, reducing the volatility and vulnerability of cash flow, and increasing the company's residual value.

Day (1994) differentiates market-driven organizational capabilities into outside-in, inside-out and spanning capabilities (Day, 1994). Narver & Slater (1990) and Kohli & Jaworski (1990) position market orientation, consisting of the generation, dissemination, and responsiveness to market intelligence, as both a culture and a capability that is a prerequisite for performance (Narver & Slater, 1990). Vorhies & Morgan further demonstrate that the combination of specialized marketing capabilities (such as brand management and product management) with cross-functional capabilities produces a more sustainable competitive advantage.

At the specific asset level, brand equity (Smith & Aaker, 1992 and Keller, 1993) and customer equity (Rust et al., 2004) serve as critical market-based assets that meet the VRIO criteria. Enriched by Service-Dominant Logic, which highlights AI-mediated value co-creation between the firm and its customers (Vargo & Lusch, 2004), Resource-Advantage (RA) Theory explains how marketing capabilities bridge internal resources and market value. Due to their

socially complex and path-dependent nature, these assets transform tangible and intangible resources into customer lifetime value, making them exceptionally difficult to imitate and highly effective as sources of sustainable competitive advantage.

2.7 Contemporary Applied Theory

O'Reilly and Tushman (2008) introduced the concept of 'ambidextrous organization' to explain how companies can simultaneously exploit existing capabilities (exploitation) and explore new capabilities (exploration) (O'Reilly & Tushman, 2008). The tension between exploitation and exploration is one of the most fundamental challenges in strategic management. In the context of the Indonesian telecommunications industry 2022-2025, ambidexterity manifests in two forms: structural ambidexterity (separation of legacy and innovation business units in one holding as implemented by Telkom through the Strategic Holding model) and contextual ambidexterity (building capacity at the individual level to choose between alignment and adaptability as pursued by IOH through the IDCamp and AI literacy programs).

Sirmon et al (2011) developed a 'resource orchestration' framework that explains how companies acquire, accumulate, and deploy resources to create value (Sirmon et al., 2011). This framework consists of three main processes, structuring, bundling and leveraging. In the digital era, resource orchestration has acquired a new dimension, often referred to as 'digital resource orchestration': the ability to identify, combine, and deploy digital resources to create value that is difficult to imitate. Successful telecommunications companies are those that are able to orchestrate physical resources (networks) with digital resources (AI, data analytics) and human resources (digital talent) in a synergistic ecosystem.

Recent developments in the RBT literature demonstrate increasing attention to how Environmental, Social, and Governance (ESG) credentials are becoming an increasingly important strategic resource. Hart (1995) in 'A Natural-Resource-Based View of the Firm' laid the foundation by arguing that a company's ability to manage its environmental impact can be a source of competitive advantage through pollution prevention, product stewardship, and sustainable development (Hart, 1995). Eccles, Ioannou, and Serafeim (2014) empirically demonstrated that companies with strong ESG policies significantly outperformed companies with weak ESG policies in the long run. This finding indicates that ESG is not simply a social obligation, but rather a reputational resource that creates real economic value (Eccles et al., 2014). In the Indonesian telecommunications industry 2025, Mitratel's ESG Risk Rating score improvement from 'Medium Risk' to 'Low Risk' by Sustainalytics, as well as the company-wide commitment to the net-zero emissions target, reflects the recognition that ESG credentials have become a valuable, scarce resource, and have the potential to be inimitable if deeply integrated into business strategy.

The Knowledge-Based View (KBV), developed by Grant (1996) and Kogut & Zander (1992), is an important extension of RBT that emphasizes knowledge as the most important strategic resource. Grant (1996) argues that the primary role of a firm is to integrate knowledge dispersed among its individuals, and that a firm's ability to integrate diverse specialist knowledge is the most fundamental source of competitive advantage (Grant, 1996). Senge (1990) introduced the concept of a 'learning organization', meaning an organization that continually expands its capacity to create a desired future (Harris, 1990). In the era of AI and digital transformation, organizational learning capabilities are becoming increasingly critical because the pace of technological change requires a continuous capacity for adaptation.

2.8 Previous Research Review

West and DeCastro (2001) found that companies with complementary assets, particularly distribution networks and brand reputation, were able to maintain a superior competitive position compared to newcomers with only technological advantages (DeCastro, 2001). This finding is relevant to understanding the position of Telkom Indonesia, which has complementary assets in the form of an unmatched national distribution network. These studies collectively illustrate how strategic resources, capability bundling, and knowledge assimilation drive sustainable competitive advantage within the technology and telecommunications sectors. First, Gruber & Verboven (2001) apply Resource-Based Theory (RBT) to show that frequency spectrum ownership functions as a vital, non-substitutable VRIN resource that secures a mobile operator's market edge. Expanding on resource utilization, Vorhies & Morgan (2005) demonstrate the value of resource orchestration, proving that bundling specialized marketing capabilities with cross-functional processes creates a more resilient advantage than relying on isolated skills. Finally, Kim & Mahoney (2005) bridge RBT and transaction cost economics, highlighting that a firm's absorptive capacity is critical for successfully adopting and integrating new network technologies. Together, these findings emphasize that market leadership depends on combining unique strategic assets with dynamic, integrated organizational capabilities.

Helfat and Raubitschek (2000) developed the concept of 'product sequencing' which they applied to the semiconductor industry (Helfat & Raubitschek, 2000). This concept is very relevant to understanding how Indonesian telecommunications operators transition from 2G to 3G to 4G to 5G while maintaining and growing their customer base. Zollo and Winter (2002) argue that dynamic capabilities do not emerge by chance but are purposefully built through three mechanisms: tacit experience accumulation, knowledge articulation, and knowledge codification (Zollo et al., 2021). An analysis of annual reports shows that Indonesian telecommunications companies implement these three mechanisms. Teece (2012) distinguishes between dynamic capabilities, which involve the entrepreneurial agility to reshape business models, and operational capabilities, which merely handle daily routines; this core distinction explains why certain telecommunications companies excel in digital transformation while others struggle. Concurrently, Parida et al. (2012) identify that open innovation depends on three pillars: absorptive, desorptive, and adaptive capacities. This framework is highly relevant to understanding how Indonesian telecommunications firms build their own innovation capabilities through strategic partnerships with global AI leaders like NVIDIA and Google.

Bharadwaj, El Sawy, Pavlou, and Venkatraman (2013) proposed the concept of 'digital business strategy' which integrates business strategy with IT strategy, and argued that in the digital era, the boundaries between IT and business are increasingly blurred so that IT can no longer be treated as a support function separate from core business strategy. (Bharadwaj et al., 2013). This concept has direct relevance to the transformation of IOH into an 'AI-Native TechCo' that integrates AI throughout the business value chain.

Digital transformation in the Indonesian telecommunications industry, spanning customer experience, operations, business models, and culture Verhoef et al. (2021), is increasingly driven by digital innovations characterized by fluidity, generativity, and distributed within platform and API ecosystems (Nambisan et al., 2017). Amid technological volatility like the 5G transition, shifting spectrum regulations, and intense competition, strategic alignment with the environment dictates how dynamic capabilities mediate market orientation to enhance innovation performance through the sensing and seizing of customer preferences (Fainshmidt et al., 2019; Kamboj & Rahman, 2017). This competitive advantage is further reinforced by robust corporate governance that sustains resource transformation, alongside the ownership of hard-to-replicate strategic assets protected by time compression diseconomies, such as massive fiber optic networks (Dierickx & Cool, 1989; Teece, 2012). Ultimately, sustaining this

competitive edge will heavily rely on AI-mediated value co-creation capabilities, which are already transforming network optimization, customer service, and predictive maintenance across the sector (Nambisan et al., 2017)

Based on a comprehensive theoretical review, this study develops a conceptual framework that integrates three levels of theory into one coherent analytical model as follows.

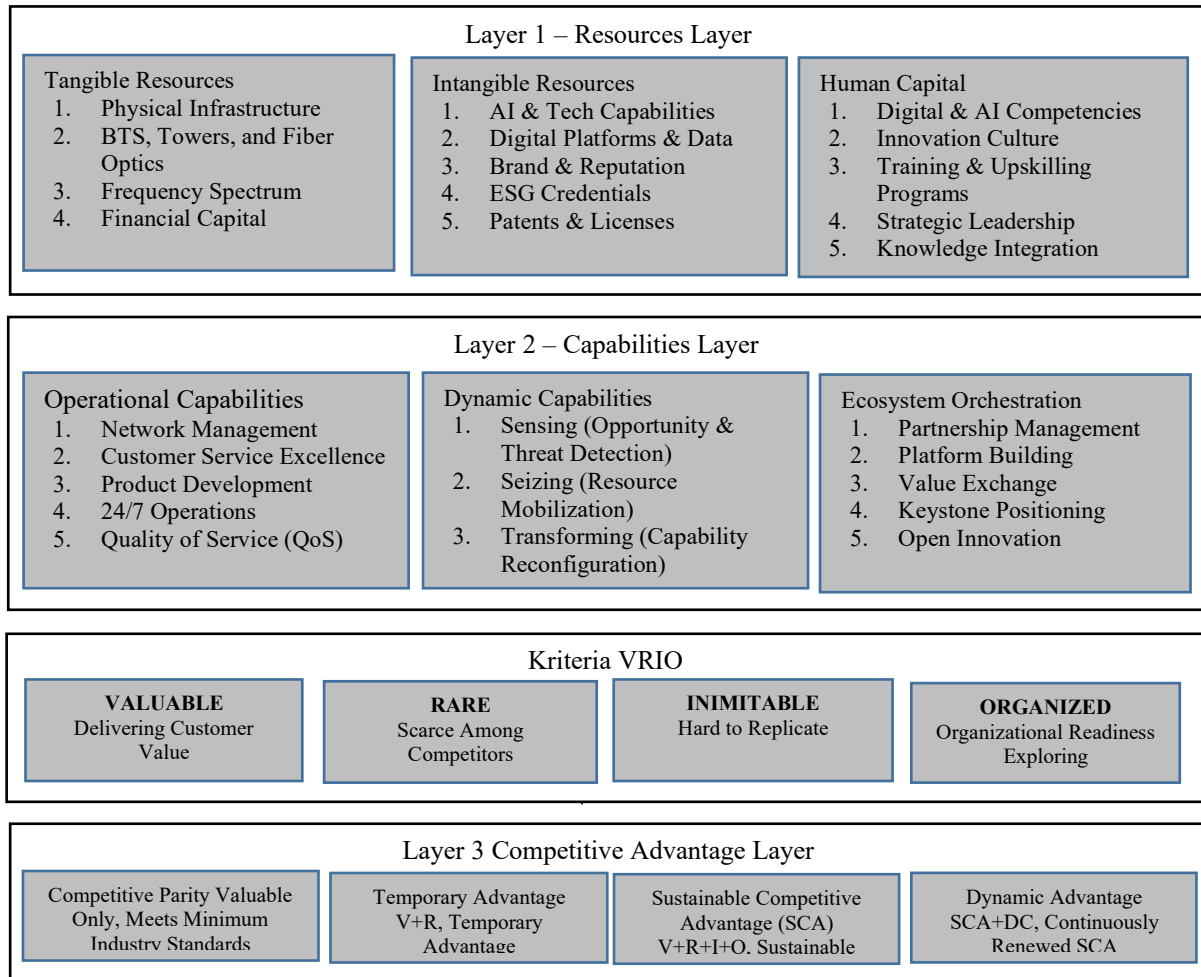


Figure 1. Research Framework

3. Research Methodology

3.1 Research Paradigms and Approaches

This research is within the interpretivism paradigm, which holds that social reality is subjective, constructed through human actions and interpretations, and must be understood from the perspective of participants (Creswell et al., 2023 and Denzin & Ryan, 2007). Based on an interpretivist paradigm, this study uses a qualitative approach that allows for in-depth exploration of complex meanings, processes, and contexts. Qualitative research in strategic management has a strong tradition, particularly in examining the 'how' and 'why' behind strategic phenomena that cannot be directly measured (Eisenhardt, 1989 & Aberdeen, 2013).

3.2 Research Design

This research uses a multiple case study design with a longitudinal comparative analysis approach. This design was chosen based on the consideration that case studies are an appropriate research strategy when the research questions are 'how' and 'why,' when the

researcher has no control over the events being studied, and when the research focus is a contemporary phenomenon in a real-life context (Aberdeen, 2013). The use of multiple case studies provides the advantage of cross-case analysis, which increases analytical generalizability (Eisenhardt & Graebner, 2007). By analyzing four companies Telkom, IOH, XLSMART, and Mitratel, that have different resource profiles, strategies, and contexts, this study can identify cross-case patterns and stronger propositions.

3.3 Data Sources and Documents

The data source for this research is the official annual reports of the four companies for the 2022 and 2025 financial years, which are public documents audited by independent auditors and verified by the Financial Services Authority (OJK). This study utilizes primary data sources consisting of the 2022 and 2025 annual reports from four prominent telecommunications companies in Indonesia. First, the data for PT Telkom Indonesia Tbk is gathered from its *Annual Report 2022* and *Annual Report 2025*, focusing on the Telkom Group Consolidation as the reporting entity. Second, for PT Indosat Ooredoo Hutchison Tbk (IOH), the data is drawn from its 2022 and 2025 annual reports, reflecting the company's financial and operational standing as an IOH post-merger entity. Third, the data for PT XLSMART Telecom Sejahtera Tbk comprises the *XL Axiata Annual Report 2022* and the *XLSMART Annual Report 2025*, capturing the reporting entity's transition from XL Axiata in 2022 to the XLSMART post-merger entity by 2025. Lastly, the study incorporates data from Telkom's tower subsidiary, PT Dayamitra Telekomunikasi Tbk (Mitratel), utilizing its *Annual Report 2022* and *Annual Report 2025* for comprehensive analysis.

3.4 Data collection technique

The data collection technique used in this study is Document Analysis using six analysis modules which are applied sequentially to each document. First, tangible resources module to extract quantitative and qualitative data about physical infrastructure, network capacity, financial resources, and other tangible assets. Second, intangible resources module to identifies and categorizes intangible resources such as brands, patents, licenses, reputation, customer relationships, and digital capabilities. Third, human capital module to analyzes data on workforce composition, competencies, development, and retention, including training programs and digital capability development. Fourth, organizational capabilities module to identify the organizational processes, systems, and routines that constitute the company's core capabilities, including management systems, culture, and governance. Fifth, dynamic capabilities module to identifies evidence of sensing, seizing, and transforming capabilities in the strategic narrative of the annual report. Sixth, ESG and sustainability module to analyzes ESG commitments, initiatives and achievements as reputational and strategic resources.

3.5 Data Analysis Techniques

Data analysis in this study followed an iterative process consisting of four stages. First Stage Within-Case Analysis: Each company was analyzed in depth as an individual case, to extract and organize resource data from the 2022 and 2025 annual reports. The within-case analysis produced a comprehensive resource profile for each company and a narrative of resource transformation in the 2022-2025 period. VRIO Analysis Stage Two that each identified resource and capability is evaluated using the VRIO framework. The evaluation is conducted systematically by answering the four VRIO questions based on the evidence available in the annual report. Third Stage is Cross-Case Analysis that the findings from the within-case analysis are then compared to identify patterns, differences, and similarities across the four companies. The cross-case analysis uses a systematic combination technique (Dubois & Gadde,

2002) , which allows for iterative movement between empirical data and the theoretical framework. Fourth, stage theoretical synthesis examines the findings from the cross-case analysis are synthesized with the theoretical framework that has been constructed to produce new theoretical propositions and model development. The text analysis techniques used include: (1) Content Analysis, a systematic analysis of the manifest and latent content of the annual report text; (2) Narrative Analysis, an analysis of the strategic narrative used by management in describing resources and strategies; and (3) Thematic Analysis, the identification of recurring themes that reflect the company's priorities and strategic choices in resource management.

3.6 Data Validity

The trustworthiness of qualitative research is ensured through four criteria proposed by Lincoln (Lincoln et al., 1985). First, credibility to achieved through member checking by comparing analysis findings with management disclosures in the annual report, triangulation of data sources by comparing the annual report with audited financial statements and regulatory disclosures, and prolonged engagement with data source documents through repeated, in-depth reading. Second, transferability to achieved through rich, thick descriptions of the research context and findings that enable readers to assess whether the findings can be transferred to other similar contexts. Third, dependability to achieved through an audit trail that fully documents the data collection and analysis process. Fourth, confirmability to achieved through confirmation that the findings reflect the source data and not the researcher's subjective projections, by including direct quotes from source documents in reporting the findings.

4. Results

PT Telkom Indonesia Tbk (Telkom), Indonesia's largest telecommunications state-owned enterprise, manages a broad digital and telecom ecosystem through key subsidiaries like Telkomsel, Mitratel, Telkom Akses, and INDICO. Between 2022 and 2025, the company underwent a major strategic transformation from an Operating Company to a Strategic Holding, restructuring its business into four pillars—B2C, B2B ICT, B2B Infrastructure, and International—under its 'TLKM 30' strategy. Financially, while consolidated revenue remained relatively stable, dipping slightly from Rp147.3 trillion in 2022 to Rp146.7 trillion in 2025 amidst intense market competition, net profit fell from Rp20.8 trillion to Rp17.8 trillion, highlighting the challenge of converting expanded assets (which grew from Rp275.2 trillion to Rp287.8 trillion) into higher profitability.

PT Indosat Ooredoo Hutchison Tbk (IOH), formed through a historic merger in January 2022, has quickly established itself as Indonesia's second-largest telecommunications operator. Between 2022 and 2025, the company underwent a dramatic transformation from a newly merged entity dealing with cultural and infrastructure integration into a pioneering "AI-Native TechCo" and "AI Nation Shaper" aligned with the Golden Indonesia Vision 2045. This evolution was backed by strong financial growth, with revenue rising 20.8% from IDR 46.8 trillion to IDR 56.5 trillion and EBITDA surging 36.6% from IDR 19.5 trillion to IDR 26.6 trillion. From a Resource-Based Theory (RBT) perspective, IOH dramatically overhauled its infrastructure by expanding its 4G base stations by over 200% to 213,898 units, deploying 6,872 5G base stations, and launching Southeast Asia's first AI-RAN (AI Radio Access Network) in collaboration with Nokia and NVIDIA.

PT XLSMART Telecom Sejahtera Tbk is now Indonesia's third-largest operator with 73 million subscribers. As XL Axiata, the focus was on its "XL SATU" convergence strategy, serving 57.5 million subscribers with 146,023 BTS and generating Rp29.2 trillion in revenue. Operating as XLSMART, the company is managing its integration with an estimated \$252

million in synergies. High integration costs led to a short-term net loss of IDR 4.41 trillion in 2025. However, the merger vastly strengthened its long-term asset base, building a massive resource portfolio of IDR 115.3 trillion in total assets, 225,649 BTS (including 5,000 5G BTS), and 152 MHz of spectrum.

PT Dayamitra Telekomunikasi Tbk (Mitratel) is a subsidiary of Telkom, specializing in telecommunications tower infrastructure (tower company). Mitratel's unique position in the Indonesian telecommunications ecosystem is as a neutral infrastructure provider, leasing infrastructure to all operators without distinction of affiliation. Mitratel's transformation in the 2022-2025 period represents the most fundamental business model shift among the four companies studied: from a pure tower company focused on passive tower leasing, to a Digital Infrastructure Provider offering integrated services including active towers, fiber optics, power management, and AI-based managed services. The data that best reflects this transformation is the remarkable growth of the fiber optic network: from approximately 6,000 km in 2022 to 57,199 km in 2025, an 853% increase in three years. Meanwhile, the number of towers increased from 35,418 to 40,230 units (13.6%), the number of tenants increased from 52,006 to 63,084, and revenue grew 23.4% from Rp7.7 trillion to Rp9.5 trillion

The analysis of tangible resources encompasses three main sub-dimensions: physical infrastructure, financial resources, and technological capacity. The physical network infrastructure is the most fundamental tangible resource in the telecommunications industry, and the changes that occurred in the period 2022-2025 showed very different patterns among the four companies:

Table 1. Physical and Network Infrastructure

Infrastructure Indicators	Telkom (2022→2025)	IOH (2022→2025)	XLSMART (2022→2025)	Mitratel (2022→2025)
Total BTS / Unit	265,194→293,136	~65,000→213,898	146,023→225,649	N/A (Tower)
5G BTS	284→4,913	0→6,872	0→~5,000	N/A
Telecommunication Tower	40,588→44,702 (via Mitratel)	Rent	Rent	35,418→40,230
Fiber Optic Network	173,266 km of cable (2022)	Integrated MOCN	Not explicit	~6,000→57,199 km
Frequency Spectrum	The widest nationally	Indosat+Tri Combination	152 MHz (post-merger)	N/A

Source: Processed by the author (2026)

Financial resources are a critical enabler that allows a company to acquire and develop other resources. A comparison of the four companies' financial resources reveals very different positions:

Table 2. Financial Resources

Indicator (Rp Billion)	Telkom 2022	Telkom 2025	IOH 2022	IOH 2025
Income	147,306	146,742	46,752	56,518
EBITDA	78,992	72,240	19,469	26,597
Net profit	20,753	17,814	5,370	5,818
Total Assets	275,192	287,759	113,880	118,630

Source: Processed by the author (2026)

Table 3. Financial Resources (Continued)

Indicator (Rp Billion)	XISmart 2022	XISmart 2025	Mitratel 2022	Mitratel 2025
Income	29,200	42,500	7,729	9,534
EBITDA	14,200	17,800 (norm.)	6,142	7,834
Net profit	1,100	(4,410) Loss	1,785	2,119
Total Assets	87,300	115,300	56,072	58,350

Source: Processed by the author (2026)

Human capital is the most complex resource dimension to analyze because it is highly intangible and tied to individuals within an organization. However, annual reports provide several indicators that allow for meaningful analysis:

Table 4. Workforce Composition and Development

Human Capital Indicators	Telkom 2022→2025	IOH 2022→2025	XLSMART 2022→2025	Mitratel 2022→2025
Number of employees	Consolidated data	~8,000 (est.)	1,878→3,703	537→679
Training Hours	Focus on Morals & Digital	AI training for 1 million talents	94,000→153,000 hours	Increased to 54.9 hours/employee
2025 Competency Focus	AI, Data Analytics, Cybersecurity	AI Literacy, Machine Learning	5G, GenAI, Digital Literacy	5G, AI, HAPS Technology
Engagement/Culture	Morals (State-Owned Enterprises)	94% engagement (2022)	Integration of two cultures	Safety culture, ESG values

Source: Processed by the author (2026)

The VRIO analysis yields several findings that are theoretically and practically important. The result is summarized in taable below.

Table 5. Comparative VRIO Resources

Resources / Capabilities	V	R	I	O	Competitive Implications
TELKOM: Widest BTS Network (293,136 units)	✓	✓	Partial	✓	Temporary SCA, can be replicated over time
TELKOM: Digital Ecosystem (INDICO, Telkom Cloud)	✓	✓	✓	Develop	SCA has strong potential if it is organized optimally
TELKOM: State-Owned Enterprise Status (Implicit Government Guarantee)	✓	✓	✓	✓	Sustainable Competitive Advantage
IOH: AI-Native Infrastructure (AI-RAN + Sovereign AI)	✓	✓	✓	✓	Sustainable Competitive Advantage (current)

Resources / Capabilities	V	R	I	O	Competitive Implications
IOH: NVIDIA & Google Partnership for AI	✓	✓	Partial	✓	Temporary SCA, partnerships can be negotiated with competitors
XLSMART: 152 MHz Spectrum	✓	✓	✓	Develop	The potential of SCA, depending on the effectiveness of its use
XLSMART: Customer Base of 73 Million	✓	Partial	Partial	✓	Competitive Parity with Telkom
MITRATEL: 57,199 km Fiber Network	✓	✓	✓	✓	Sustainable Competitive Advantage
MITRATEL: 40,230 Towers + ESG Low Risk	✓	✓	✓	✓	Sustainable Competitive Advantage
MITRATEL: EBITDA Margin 82% + idAAA Rating	✓	✓	✓	✓	Sustainable Competitive Advantage

Description: ✓ = meets the criteria; Partial = partially meets; Developing = in the process of strengthening.
Source: Processed by the author (2026)

Complementing the VRIO analysis of general resources, this section specifically evaluates the market-based assets and marketing capabilities of the four companies using the VRIO framework. The evaluation focuses on the four most strategic marketing dimensions: brand equity, customer equity, value-based marketing capabilities, and digital customer experience capabilities.

Table 6. VRIO-Based Marketing Capabilities and Assets Analysis

Marketing Assets / Capabilities	V	R	I	O	Competitive Implications
TELKOM: Telkomsel & IndiHome Brand Equity	✓	✓	Partial	✓	Temporary–Sustainable; national brand leadership
TELKOM: Cross-Sell Cellular–Fixed (convergence)	✓	✓	✓	Develop	SCA potential if bundling is optimized
IOH: Positioning “AI-Native TechCo / AI Nation Shaper”	✓	✓	✓	✓	Sustainable Competitive Advantage (current)
IOH: “Volume to Value” Capability (ARPU +19%)	✓	Partial	Partial	✓	Temporary SCA; improving the quality of customer equity
XLSMART: Post-Merger Customer Equity (73 million)	✓	Partial	Partial	✓	Competitive Parity; brand integration is not yet complete
XLSMART: Customer Experience AI (“Sarah”)	✓	Partial	Partial	Develop	Temporary advantage; relatively easy to imitate
MITRATEL: Neutral Provider Reputation + B2B Tenant Relations	✓	✓	✓	✓	Sustainable Competitive Advantage
MITRATEL: ESG Credentials as a Signal of Credibility	✓	✓	✓	✓	Sustainable Competitive Advantage

Description: ✓ = meets the criteria; Partial = partially meets; Developing = in the process of strengthening.
Source: Processed by the author (2026)

5. Discussion

The most striking finding is IOH's BTS growth of over 200% in three years, far exceeding the industry average. This is a manifestation of IOH's post-merger 'network-first' strategy, which prioritizes network infrastructure development as the foundation for premium services and AI-native transformation. Mitratel's 853% fiber optic growth represents the most spectacular and strategic milestone from a long-term RBT perspective. Fiber optic networks are highly capital-intensive and require a significant amount of time to build, thus meeting the inimitable criteria within the VRIO framework. Furthermore, fiber optic networks complement tower infrastructure; without high-quality fiber backhaul, capacity cannot be optimized. Therefore, the combination of the two creates a powerful complementary asset. From the perspective of Dierickx and Cool (1989), network infrastructure assets, especially BTS and fiber optics, have the characteristics of high 'asset mass efficiencies' and 'asset stock interconnectedness': the larger the network, the greater the benefits that can be obtained from each addition of new nodes (network effects), and the more connected the assets are, the higher the total value of the network.

The analysis of financial resources reveals an interesting pattern from an RBT perspective. Telkom, as the largest company, has the strongest financial base yet is experiencing profitability pressures. This paradox can be understood through the lens of 'resource rigidity,' where large companies struggle to reallocate resources from declining legacy businesses to new growth opportunities due to their existing commitments (Gilbert, 2005). In contrast, Mitratel demonstrated the most consistent and efficient financial performance, with an EBITDA margin of 82.2% in 2025, one of the highest in the Asian telecommunications industry, and sustained net profit growth of 18.7%. Mitratel's financial efficiency reflects its clear business model (a neutral infrastructure provider) and its ability to optimize existing assets through a colocation strategy (tenancy ratio increased from 1.47 to 1.57). IOH demonstrated the strongest financial growth in terms of revenue and EBITDA, reflecting the success of its post-merger transformation strategy. While XLSMART's Rp4.41 trillion loss in 2025 should be understood as a long-term investment in building a competitive position through the merger, a more appropriate analogy is 'sowing before reaping' in strategic terms.

Intangible resources, including technological capabilities, brand, reputation, customer relationships, and digital assets, are increasingly becoming key determinants of competitive advantage in knowledge-based industries such as telecommunications. Research findings identify four categories of intangible resources as the most strategic. The integration of artificial intelligence (AI) into telecommunications operations is the most dynamic dimension of intangible resources in the 2022-2025 period. Each company is developing a different approach to building AI capabilities. IOH is leading the way with the most aggressive and comprehensive strategy. The transformation into an 'AI-Native TechCo' is not just marketing rhetoric, but is realized through concrete investments: the launch of the AI Neo Cloud Platform, the development of a cloud-based Unified Data Platform, and the implementation of Southeast Asia's first AI-RAN (AI Radio Access Network) with Nokia and NVIDIA. AI-RAN enables real-time network optimization using machine learning, fundamentally changing network efficiency and quality compared to conventional approaches. Furthermore, IOH announced the Sovereign AI infrastructure initiative, a national and sovereign AI infrastructure that positions the company as an enabler of Indonesia's overall digital transformation. XLSMART is integrating AI through the launch of its Generative AI-powered virtual assistant, 'Sarah,' which handles customer service automatically. AI deployment is expanding from 49 use cases in 2022 to full implementation by 2025, including 5G-based autonomous drones for logistics, an innovation that places XLSMART at the forefront of 5G use case implementation in Indonesia. Mitratel developed the AIONIC ONE platform, which integrates AI for predictive maintenance,

tower energy consumption optimization, and operational management. This platform enables Mitratel to transition from a reactive operating model (responding to failures after they occur) to a proactive one (preventing failures before they occur), significantly improving operational efficiency and tenant satisfaction. Telkom, as the largest company in the world, is building AI capabilities through an ecosystem approach: integrating AI into cloud services (Telkom Cloud), digital platforms (MyTelkomsel, IndiHome), and Telkomsel's network operations. Telkom's AI capability development leverages its scale advantage; data from over 150 million mobile subscribers and over 10 million IndiHome customers is a valuable asset for training AI models.

ESG credentials have become an increasingly important reputational asset, particularly as pressure on sustainability performance from institutional investors, regulators, and corporate customers increases. The study found that all four companies have integrated ESG into their business strategies, but to varying degrees of depth. Mitratel demonstrated the most measurable and verifiable ESG progress: an increase in its ESG Risk Rating score from Sustainalytics from 22.4 ('Medium Risk' category) to 18.8 ('Low Risk' category) is a significant achievement and places Mitratel among the telecommunications companies with the best ESG performance in Indonesia. This achievement is not merely cosmetic; Sustainalytics is a leading global ESG rating agency referenced by thousands of institutional investors in portfolio allocation decisions. This means that Mitratel's improved ESG score directly increases the company's accessibility to capital from ESG-conscious investors. Mitratel also consistently maintained its idAAA (Stable) rating from Pefindo from 2022-2025 (the highest credit rating, reflecting very high financial confidence and lowering the company's cost of capital). From an RBT perspective, the combination of strong ESG credentials and the highest credit rating creates a reputational resource that possesses VRIO characteristics: valuable (lowering the cost of capital and attracting corporate customers), rare (only companies with the best governance and performance can achieve it), difficult to imitate (built through years of accumulation), and requiring the right organization to maintain. IOH is building a reputation as an 'AI Nation Shaper', aligned with the Golden Indonesia Vision 2045, integrating nationalist narratives with technological transformation. Strategic partnerships with NVIDIA (for AI infrastructure) and Google (for cloud and AI) provide global legitimacy to IOH's AI capabilities. Telkom, as a state-owned enterprise, has a unique reputational dimension: its status as a state-owned enterprise provides implicit government backing, a reputational resource that no private operator can possess.

The customer base, particularly its quality and loyalty, as measured by Average Revenue Per User (ARPU), is a critical intangible resource in the telecommunications industry. A comparison of the evolution of the customer base reveals an interesting pattern. IOH strategically rationalized its customer base by reducing the number of customers from 102.2 million to 93.7 million, but simultaneously increased its ARPU from IDR 33,900 to IDR 40,400 (a 19% increase). This 'volume to value' strategy reflects a shift from a competitive strategy based on massive customer acquisition to premium customer retention and monetization. From an RBT perspective, high-quality customers with high ARPU and strong loyalty are a more valuable resource and more difficult to imitate than mass customers with low loyalty. XLSMART achieved a significant jump in its customer base through the merger, from 57.5 million to 73 million, accompanied by a moderate increase in ARPU from Rp39,000 to Rp39,500. The challenge ahead for XLSMART is to integrate the customer bases of two different companies (XL Axiata, which tends to be urban-premium, and Smartfren, which tends to be data-heavy budget) into one cohesive and profitable customer base. Telkom, through Telkomsel, maintains its dominant position with approximately 156 million mobile subscribers, a figure expected to remain unchanged between 2022 and 2025, reflecting a focus on quality and retention over numerical growth. IndiHome service grew from 9.2 million to 10.3 million

subscribers, providing significant cross-selling opportunities between mobile and fixed broadband services.

The human capital analysis reveals an interesting pattern. All companies are consistently increasing investment in developing the digital and AI competencies of their workforce, but with varying approaches. The IOH is taking the most ambitious approach, targeting AI training for one million digital talents. This scale of ambition reflects the IOH's understanding that excellence in AI depends not only on technology and infrastructure, but also on the availability of human talent capable of leveraging these technologies. XLSMART recorded a significant increase in training hours from 94,000 to over 153,000 hours (a 62.8% increase), reflecting the intensity of the cultural integration and upskilling process of the workforce from two different corporate entities. From an RBT perspective, the ability to integrate and enhance the competency of the workforce from two different companies without sacrificing productivity is a manifestation of the organization's 'absorptive capacity.' Mitratel, with its relatively small workforce (679) but highly specialized and highly skilled workforce, demonstrates an efficient lean and specialized human capital model. The average annual training of 54.9 hours per employee demonstrates a strong commitment to competency development, particularly in emerging technologies such as 5G, AI, and HAPS (High Altitude Platform Station). From the perspective of the Knowledge-Based View (Grant, 1996), the four companies are building 'knowledge integration capability', namely the ability to integrate specialist knowledge scattered among individuals and units within the organization to produce products and services that are valuable to customers. However, the most significant challenge is 'knowledge stickiness' (Von Hippel, 1994) namely the difficulty of transferring tacit knowledge (knowledge embedded in experience and cannot be codified) between individuals and between units.

Organizational culture is one of the most difficult intangible resources to imitate because it is socially complex and path-dependent. The research findings identified different cultural approaches among the four companies. Telkom is unique as a state-owned enterprise (SOE) with the internalization of the AKHLAK (Trustworthy, Competent, Harmonious, Loyal, Adaptive, and Collaborative) values, which are established by the government. While these values are universal, their implementation in the context of digital transformation and the reorganization of the Strategic Holding creates a unique cultural dynamic between the bureaucratic traditions of SOEs and the demands of technological corporate agility. IOH built a post-merger 'Hiro' cultural identity, a character that reflects the spirit of collaboration and innovation from the combination of two different entities, as measured by an employee engagement rate of 94% in 2022. The 'Hiro' culture then evolved into an 'AI-Native Culture' in 2025, where AI literacy becomes a basic expectation for all employees. XLSMART faces a complex cultural challenge: integrating the culture of a multinational company (XL Axiata and its Malaysian affiliate Axiata Group) with that of a more agile domestic company (Smartfren). The commitment to no layoffs during the merger is a strong signal of management's priority values, potentially building the loyalty and psychological safety necessary for innovation.

The VRIO analysis yields several findings that are theoretically and practically important. First, Mitratel has the highest proportion of resources meeting SCA criteria among the four companies studied. The combination of a massive fiber optic network, the largest tower portfolio in Southeast Asia, verified ESG credentials, and consistent financial performance creates a very strong and difficult-to-replicate resource bundle. Ironically, Mitratel, as a subsidiary, tends to receive less attention in competitive analysis than mobile operators, even though its competitive position is the most robust from a VRIO perspective. Second, IOH's advantage through AI-Native Infrastructure meets the current VRIO criteria, but is more fragile than Mitratel's infrastructure advantage because AI technology is developing very quickly and competitors (especially Telkom through Telkomsel) have sufficient resources to catch up.

IOH's advantage will be sustainable only if supported by dynamic capabilities that enable the company to continue to innovate faster than competitors (a continuously updated first-mover advantage). Third, Telkom's state-owned enterprise status represents the most truly inimitable resource in the entire industry; no private operator can obtain it. However, this resource, paradoxically, can also be a source of competitive handicap if government regulations and expectations limit Telkom's strategic flexibility in responding to market changes.

Telkom, through its Telkomsel and IndiHome brands, has the largest brand equity and customer base in Indonesia. Its positioning meets the criteria of valuable, rare, and organized, but its imitability is partial because competitors can build similar brand awareness over time. Telkom's most distinctive market-based asset is the cross-selling opportunity between its cellular services (156 million subscribers) and fixed broadband (10.3 million IndiHome subscribers), a relational market-based asset that is difficult for operators without converged infrastructure to replicate. IOH demonstrates its most prominent marketing capabilities in two ways. First, its brand positioning of "AI-Native TechCo" and "AI Nation Shaper" represents a differentiation that, for now, meets all four VRIO criteria. Second, its "volume to value" strategy of rationalizing its customer base from 102.2 million to 93.7 million, accompanied by an increase in ARPU from IDR 33,900 to IDR 40,400 (a 19% increase), reflects its value-based pricing and segmentation capabilities that enhance the quality of customer equity. From Rust et al.'s (2004) perspective, this strategy increases the average customer lifetime value, not just the number of customers. XLSMART achieved a leap in customer equity through the merger (73 million customers) and built customer experience capabilities through its Generative AI-based virtual assistant, "Sarah." However, its brand equity remains at competitive parity as the company manages the transition from two brand identities (XL Axiata and Smartfren) to a single, cohesive brand. Its biggest marketing challenge is integrating two distinct customer bases, the urban-premium XL Axiata and the data-heavy Smartfren, into a consistent brand architecture and segmentation.

Despite operating in the B2B space, Mitratel possesses the strongest relationship marketing assets from a VRIO perspective. As a neutral infrastructure provider, its unaffiliated reputation for neutrality enables long-term relationships with all operators, and its verified ESG credentials (an upgrade to the Low-Risk category on Sustainalytics) serve as a credibility signal that strengthens its appeal to corporate customers. This combination of long-term tenant contracts, a reputation for neutrality, and ESG credentials constitutes relational and intellectual market-based assets that meet all four VRIO criteria.

This analysis confirms an important pattern: market-based assets, particularly brand equity and customer equity built through marketing capabilities, tend to be more resistant to imitation than physical assets. While BTS networks can be replicated with sufficient investment, historically accumulated brand equity and customer loyalty are socially complex and path-dependent, thus providing a more robust foundation for sustainable competitive advantage in the Indonesian telecommunications industry.

Dynamic capabilities analysis was conducted by identifying the manifestations of Teece's (2007) three clusters: sensing, seizing, and transforming in the strategic narratives of the four companies' annual reports. Sensing capability is detecting and shaping opportunities and threats that manifest differently in the four companies. IOH demonstrated the most proactive sensing capability: identifying Sovereign AI opportunities before competitors and responding quickly by building Southeast Asia's first AI-RAN infrastructure demonstrates its ability to 'shape' opportunities, not just respond. Strategic partnerships with NVIDIA and Google by 2025 indicate that IOH is actively scanning the global ecosystem to identify technologies and partners that can strengthen its competitive position.

Mitratel demonstrated precise sensing capabilities: early identification that demand for backhaul capacity would surge with the proliferation of 5G prompted a strategic decision to massively expand its fiber optic network. This precise sensing enabled Mitratel to establish a leading backhaul provider position before demand exploded, allowing it to charge premium prices and select the best customers. Telkom demonstrates comprehensive sensing capability through its 'TLKM 30' strategy, which identifies four key transformation areas. However, Telkom's scale and complexity mean it tends to be slower to respond to market signals than smaller, more agile players.

Seizing ability, namely mobilizing resources to exploit identified opportunities, shows significant variation. XLSMART achieved its most dramatic seizing through its merger with Smartfren. The decision to complete the merger and integrate two large companies in a relatively short time demonstrates strong seizing capability. While resulting in a short-term loss (Rp 4.41 trillion), the merger provided access to resources unattainable through organic growth over the same timescale: 225,649 base transceiver stations (BTS), 73 million subscribers, and 152 MHz of spectrum. IOH demonstrated seizing capability by rapidly expanding its 4G base transceiver station network from 65,000 to 213,898 in three years, a feat that required the simultaneous mobilization of significant financial, human, and technological resources. This success demonstrates strong cross-functional coordination in executing large-scale infrastructure investments.

Transforming capabilities, namely the continuous reconfiguration of resources and capabilities, are the rarest and most valuable dimensions of dynamic capabilities: Mitratel's transformation from a tower company to a digital infrastructure provider is the most dramatic example of transformative capability. This change goes beyond service expansion, but rather a fundamental reconfiguration of its business model, core competencies, and value proposition. The ability to transform its business model while maintaining solid financial performance (EBITDA margin increased from 79.5% to 82.2%) is a powerful demonstration of transformative capability. IOH demonstrates transforming capability through a shift in identity from 'Telecommunication Operator' to 'AI-Native TechCo', a reconfiguration that involves changes in core competencies (from network operations to AI-driven services), revenue model (from connectivity charges to value-added digital services), and positioning (from domestic player to 'AI Nation Shaper'). Telkom demonstrated its transformative capabilities through a structural reorganization into a Strategic Holding, a change that required reconfiguration of governance, resource allocation among subsidiaries, and a redefinition of the roles of holding companies versus operating companies. While this change has not yet fully translated into significant profitability improvements, it has created a more flexible organizational architecture to exploit future opportunities across business segments.

Based on a comprehensive within-case analysis, this section synthesizes key findings through cross-case analysis to identify patterns that have significant theoretical and practical implications. In pattern 1, one of the fundamental assumptions of RBT is that resource heterogeneity, or differences in the resources possessed by companies within an industry, is a condition that enables competitive advantage. Research findings indicate that between 2022 and 2025, the Indonesian telecommunications industry will experience increasing resource heterogeneity, not convergence. In 2022, all four companies could still be categorized as 'telecommunication operators' with relatively incremental differences in resources and strategies. By 2025, the differences between the companies become fundamental: IOH has transformed into an AI-Native TechCo, Mitratel has become a Digital Infrastructure Provider, Telkom has become a Strategic Holding, and XLSMART is still in the process of post-merger consolidation. This increasing heterogeneity creates conditions more conducive to sustainable competitive advantage for companies that successfully develop distinctive resources. In pattern

2, one of the most significant findings of this research is that AI integration is creating a new resource asymmetry that is fundamentally different from the physical infrastructure-based asymmetry that has dominated the telecommunications industry. Physical infrastructure-based asymmetry is relatively 'democratic'; with sufficient investment, any operator can build an equal network. However, AI-driven asymmetry inherently fosters a "winner-takes-most" landscape driven by three self-reinforcing advantages: a data flywheel where initial scale yields superior model accuracy that perpetually attracts more users; a talent monopoly fueled by the global scarcity of top-tier AI researchers; and exclusive ecosystem partnerships (such as IOH's preferred status with NVIDIA) that create structural technological barriers for late entrants.

In pattern 3 is about the asset growth vs. profitability paradox. This study confirms the existence of an 'asset growth vs. profitability paradox' that occurs at varying scales across all the companies studied. This paradox can be explained by two RBT mechanisms. The first mechanism is resource lag, the time between resource acquisition and the realization of value. Network infrastructure investments (BTS, fiber optics) require several years before the capacity can be fully monetized. In the 2022-2025 period, all companies made significant infrastructure investments, resulting in a sharp increase in depreciation and amortization expenses, depressing net income even as revenue grew. The second mechanism is the integration costs of mergers and acquisitions. XLSMART, which incurred the largest merger integration costs, experienced the most significant losses. IOH, which completed its post-merger integration earlier (2022-2023), is now beginning to reap the rewards of strong EBITDA growth (+36.6%). This pattern confirms that short-term losses in the context of merger integration can be a rational investment in building a stronger resource base for long-term advantage. In pattern 4 is about ESG as a Resource Enabler, Not Just a Burden. Research findings consistently show that ESG is not treated as a cost burden or regulatory obligation by the companies studied, but rather as an enabler that enhances the value of other resources. ESG as an enabler of capital access: A strong ESG rating (such as Mitratel's) increases accessibility to green bonds, ESG-linked financing, and ESG-focused institutional investors. With a lower cost of capital, companies have greater capacity to invest in resources that create competitive advantage. ESG as a partnership enabler: Corporate companies (B2B customers) are increasingly integrating ESG screening into their vendor and partner selection. Telecommunications operators with strong ESG performance have an advantage in winning high-value, long-term corporate contracts. ESG as an enabler of talent attraction: Younger generations of the workforce (Millennials and Gen Z) tend to choose to work for companies with strong ESG values. The ability to attract top digital talent, which is critical in AI-driven competition, is partly determined by a company's ESG reputation.

6. Conclusion

Between 2022 and 2025, Indonesia's telecom sector proved that while massive physical scaling. It also creates heavy financial strain. Mitratel cracked this code by using a smart tower-sharing model that boosted its EBITDA margin to 82.2%, proving that efficient asset monetization matters far more than just raw size. As physical infrastructure became standard, the real battle shifted to tech innovation and people. Advanced AI setups and strong ESG metrics are now mandatory to win over investors, prompting companies like IOH and XL Axiata to aggressively retrain their workforces. However, these talent investments only pay off when companies actually redesign their internal workflows and culture to support new digital tools. Ultimately, different strategies emerged across the industry. Mitratel holds the most stable competitive edge because it successfully evolved from a simple tower utility into an integrated digital infrastructure powerhouse. Meanwhile, IOH's AI-driven lead requires non-stop innovation to avoid becoming obsolete, and Telkom faces the unique challenge of turning its state-owned status into a market strength rather than a bureaucratic hurdle.

The main theoretical contribution of this research is to extend the conventional RBT framework by integrating three dimensions. First dimension, Digital resources (data assets, AI algorithms, platform ecosystems, and digital customer relationships) need to be treated as a distinct resource category. Typical characteristics include non-rivalry, scalability, and network effects. Second dimension, ESG credentials and sustainable infrastructure need to be explicitly integrated into the RBT framework, as they have a distinct value creation mechanism from other resources. Third dimension, Ecosystem Orchestration Capability: The ability to build and orchestrate multi-stakeholder digital ecosystems is a high-level capability. This includes acquiring the right partners, building value-creating platforms, managing value exchanges, and maintaining a profitable 'keystone' position.

Based on the research findings, four theoretical propositions are proposed. First, in the digitally transformed telecommunications industry, sustainable competitive advantage is increasingly determined by the 'AI resource bundle', a synergistic combination of AI infrastructure, talent, processes, and customer experiences that creates an insurmountable learning loop over time. Second, mergers and acquisitions act as 'accelerated resource acquisition' mechanisms that, despite short-term integration costs, fundamentally change the firm's resource base and heterogeneity in a way organic growth cannot achieve on the same time scale. Third, ESG credentials function as a 'resource multiplier', increasing the effectiveness of other resources by unlocking cheaper capital, broader partnerships, and better talent access to enhance a company's capacity to exploit competitive resources. Fourth, dynamic capabilities in a hypercompetitive industry are hierarchical, where first-order capabilities (implementing new tech solutions) must be supported by second-order capabilities (learning how to sense, seize, and transform more effectively) to sustain competitive advantage.

This study acknowledges several limitations, as its heavy reliance on public annual reports (2022–2025) omits sensitive strategic data and presents temporal constraints that miss granular, short-term operational dynamics. Additionally, variance in disclosure levels limits comparability, while the purely internal management perspective lacks external stakeholder validation. To address these gaps, future research agendas should develop quantitative instruments to test these constructs via Structural Equation Modeling (SEM) across a wider sample of developing-country telecom firms. Long-term studies spanning 10–15 years are needed to rigorously verify sustainable competitive advantage, supplemented by qualitative stakeholder interviews with executives and regulators. Finally, expanding this framework to comparative analyses across other ASEAN markets and empirically operationalizing the newly proposed digital ecosystem orchestration capability will significantly advance regional strategic management literature.

Reference

- Aberdeen, T. (2013). Yin, R. K. (2009). Case study research: Design and methods (4th Ed.). Thousand Oaks, CA: Sage. *The Canadian Journal of Action Research* , 14 (1), 69–71. <https://doi.org/10.33524/cjar.v14i1.73>
- Amaya, N., Bernal-Torres, C.A., Nicolás-Rojas, Y.W., & Pando-Ezcurra, T.T. (2024). Role of internal resources on the competitive advantage building in a knowledge-intensive organization in an emerging market. *VINE Journal of Information and Knowledge Management Systems* , 54 (5), 1153–1169. <https://doi.org/10.1108/VJIKMS-01-2022-0029>
- Amit, R., & Schoemaker, P. J. H. (1993). Strategic assets and organizational rent. *Strategic Management Journal* , 14 (1), 33–46. <https://doi.org/10.1002/smj.4250140105>

- Apriliyanti, ID (2022). A Problem Waits: Is it True that Resource-Based Theory (RBT) is an Empty Tautology? *Policy & Governance Review* , 6 (2), 107. <https://doi.org/10.30589/pgr.v6i2.543>
- Aziegbe-Esho, E. (2024). The Nature of Human Capital. In E. Aziegbe-Esho, *On the Sustainable Development of African Countries* (pp. 27–37). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-81124-1_3
- Bailly, F., & Dubrion, B. (2026). Reading Edith Penrose through the eyes of a labor economist¹. *The European Journal of the History of Economic Thought* , 33 (1), 29–53. <https://doi.org/10.1080/09672567.2025.2460219>
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management* , 17 (1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Barney, J. B. (1986). Strategic Factor Markets: Expectations, Luck, and Business Strategy. *Management Science* , 32 (10), 1231–1241. <https://doi.org/10.1287/mnsc.32.10.1231>
- Barney, J. B. (2000). Firm resources and sustained competitive advantage. In *Advances in Strategic Management* (Vol. 17, pp. 203–227). Emerald (MCB UP). [https://doi.org/10.1016/S0742-3322\(00\)17018-4](https://doi.org/10.1016/S0742-3322(00)17018-4)
- Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management* , 27 (6), 643–650. <https://doi.org/10.1177/014920630102700602>
- Barney, J. B., & Clark, D. N. (2007). Strategic factor markets and competitive advantage*. In J. B. Barney & D. N. Clark, *Resource-Based Theory* (pp. 31–48). Oxford University PressOxford. <https://doi.org/10.1093/oso/9780199277681.003.0002>
- Bharadwaj, A., El Sawy, O.A., Pavlou, P.A., & Venkatraman, N. (2013). Digital Business Strategy: Toward a Next Generation of Insights. *MIS Quarterly* , 37 (2), 471–482. <https://doi.org/10.25300/MISQ/2013/37:2.3>
- Creswell, J., Poth, C. N., & Rawlins, P. (2023). Mapping Design Trends and Evolving Directions Using the Sage Handbook of Mixed Methods Research Design. In C. Poth (Ed.), *The Sage Handbook of Mixed Methods Research Design* (pp. 527–537). Sage Publications Ltd. <https://doi.org/10.4135/9781529682663.n50>
- D'Aveni, R. A. (1994). Hypercompetition: Managing the dynamics of strategic maneuvering. *Choice Reviews Online* , 32 (02), 1031-32-32–1031. <https://doi.org/10.5860/CHOICE.32-1031>
- Day, G.S. (1994). The Capabilities of Market-Driven Organizations. *Journal of Marketing* , 58 (4), 37–52. <https://doi.org/10.1177/002224299405800404>
- DeCastro, J. (2001). The Achilles Heel of Firm Strategy: Resource Weaknesses and Distinctive Inadequacies. *Journal of Management Studies* , 38 (3), 417–442. <https://doi.org/10.1111/1467-6486.00243>
- Denzin, N. K., & Ryan, K. E. (2007). Qualitative Methodology (Including Focus Groups). In W. Outhwaite & S. Turner, *The SAGE Handbook of Social Science Methodology* (pp. 578–594). SAGE Publications Ltd. <https://doi.org/10.4135/9781848607958.n32>
- Dierickx, I., & Cool, K. (1989). Asset Stock Accumulation and Sustainability of Competitive Advantage. *Management Science* , 35 (12), 1504–1511. <https://doi.org/10.1287/mnsc.35.12.1504>
- Dubois, A., & Gadde, L.-E. (2002). Systematic combining: An abductive approach to case research. *Journal of Business Research* , 55 (7), 553–560. [https://doi.org/10.1016/S0148-2963\(00\)00195-8](https://doi.org/10.1016/S0148-2963(00)00195-8)
- Eccles, R.G., Ioannou, I., & Serafeim, G. (2014). The Impact of Corporate Sustainability on Organizational Processes and Performance. *Management Science* , 60 (11), 2835–2857. <https://doi.org/10.1287/mnsc.2014.1984>

- Eisenhardt, K. M. (1989). Building Theories from Case Study Research. *The Academy of Management Review* , 14 (4), 532. <https://doi.org/10.2307/258557>
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory Building From Cases: Opportunities And Challenges. *Academy of Management Journal* , 50 (1), 25–32. <https://doi.org/10.5465/amj.2007.24160888>
- Eisenhardt, K. M., & Martin, J. A. (2017). Dynamic Capabilities: What Are They? In C.E. Helfat (Ed.), *The SMS Blackwell Handbook of Organizational Capabilities* (1st ed., pp. 341–363). Wiley. <https://doi.org/10.1002/9781405164054.ch21>
- Fainshmidt, S., Wenger, L., Pezeshkan, A., & Mallon, M.R. (2019). When do Dynamic Capabilities Lead to Competitive Advantage? The Importance of Strategic Fit. *Journal of Management Studies* , 56 (4), 758–787. <https://doi.org/10.1111/joms.12415>
- Gilbert, C. G. (2005). Unbundling the Structure of Inertia: Resource Versus Routine Rigidity. *Academy of Management Journal* , 48 (5), 741–763. <https://doi.org/10.5465/amj.2005.18803920>
- Grant, R. M. (1991). The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Management Review* , 33 (3), 114–135. <https://doi.org/10.2307/41166664>
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal* , 17 (S2), 109–122. <https://doi.org/10.1002/smj.4250171110>
- Gruber, H., & Verboven, F. (2001). The diffusion of mobile telecommunications services in the European Union. *European Economic Review* , 45 (3), 577–588. [https://doi.org/10.1016/S0014-2921\(00\)00068-4](https://doi.org/10.1016/S0014-2921(00)00068-4)
- Hall, R. (1992). The strategic analysis of intangible resources. *Strategic Management Journal* , 13 (2), 135–144. <https://doi.org/10.1002/smj.4250130205>
- Hall, R. (1993). A framework linking intangible resources and capabilities to sustainable competitive advantage. *Strategic Management Journal* , 14 (8), 607–618. <https://doi.org/10.1002/smj.4250140804>
- Harris, S. G. (1990). The fifth discipline: The art and practice of the learning organization, by Peter Senge, New York: Doubleday/Currency, 1990. *Human Resource Management* , 29 (3), 343–348. <https://doi.org/10.1002/hrm.3930290308>
- Hart, S. L. (1995). A Natural-Resource-Based View of the Firm. *The Academy of Management Review* , 20 (4), 986. <https://doi.org/10.2307/258963>
- Helfat, C.E., & Raubitschek, R.S. (2000). Product sequencing: Co-evolution of knowledge, capabilities and products. *Strategic Management Journal* , 21 (10–11), 961–979. [https://doi.org/10.1002/1097-0266\(200010/11\)21:10/11%3C961::AID-SMJ132%3E3.0.CO;2-E](https://doi.org/10.1002/1097-0266(200010/11)21:10/11%3C961::AID-SMJ132%3E3.0.CO;2-E)
- Hunt, S. D., & Morgan, R. M. (1995). The Comparative Advantage Theory of Competition. *Journal of Marketing* , 59 (2), 1–15. <https://doi.org/10.1177/002224299505900201>
- Hunt, S. D., & Morgan, R. M. (1996). The Resource-Advantage Theory of Competition: Dynamics, Path Dependencies, and Evolutionary Dimensions. *Journal of Marketing* , 60 (4), 107–114. <https://doi.org/10.1177/002224299606000410>
- Iliyas, M., & Barca, M. (2025). A Chronological Review of Resource-Based Theory and Future Research Directions. *Journal of Management World* , 2025 (4), 41–53. <https://doi.org/10.53935/jomw.v2024i4.1153>
- Kamboj, S., & Rahman, Z. (2017). Market orientation, marketing capabilities and sustainable innovation: The mediating role of sustainable consumption and competitive advantage. *Management Research Review* , 40 (6), 698–724. <https://doi.org/10.1108/MRR-09-2014-0225>

- Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing* , 57 (1), 1–22. <https://doi.org/10.1177/002224299305700101>
- Kim, J., & Mahoney, J. T. (2005). Property rights theory, transaction costs theory, and agency theory: An organizational economics approach to strategic management. *Managerial and Decision Economics* , 26 (4), 223–242. <https://doi.org/10.1002/mde.1218>
- Kohli, A. K., & Jaworski, B. J. (1990). Market Orientation: The Construct, Research Propositions, and Managerial Implications. *Journal of Marketing* , 54 (2), 1–18. <https://doi.org/10.1177/002224299005400201>
- Lau, C. H., & Michie, J. (2024). Penrose's theory of the firm in an era of globalisation. In J. Michie & C. Oughton, *Edith Penrose's Legacy* (1st ed., pp. 154–173). Routledge. <https://doi.org/10.4324/9781003587132-9>
- Leelhaphunt, A. (2025). *Whether dynamic capabilities can enhance firm innovation performance under the economic uncertainty crisis: Thailand's manufacturing industry* . In Review. <https://doi.org/10.21203/rs.3.rs-6568583/v1>
- Leo, J. E. (1982). Competitive strategy: Techniques for analyzing industries and competitors. *Industrial Marketing Management* , 11 (4), 318–319. [https://doi.org/10.1016/0019-8501\(82\)90025-6](https://doi.org/10.1016/0019-8501(82)90025-6)
- Lincoln, Y.S., Guba, E.G., & Pilotta, J.J. (1985). Naturalistic inquiry. *International Journal of Intercultural Relations* , 9 (4), 438–439. [https://doi.org/10.1016/0147-1767\(85\)90062-8](https://doi.org/10.1016/0147-1767(85)90062-8)
- Liu, K. (2024). *China's Direct Investment in Indonesia (1990–2022): Multiple Structure and Systemic Risks* . Springer Nature Singapore. <https://doi.org/10.1007/978-981-97-7328-2>
- Lubis, NW (2022). Resource Based View (RBV) in Improving Company Strategic Capacity. *Research Horizons* , 2 (6), 587–596. <https://doi.org/10.54518/rh.2.6.2022.587-596>
- Mahoney, J. T., & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic Management Journal* , 13 (5), 363–380. <https://doi.org/10.1002/smj.4250130505>
- Makadok, R. (2001). Toward a synthesis of the resource-based and dynamic-capability views of rent creation. *Strategic Management Journal* , 22 (5), 387–401. <https://doi.org/10.1002/smj.158>
- Monteiro, J. J., Lunkes, R. J., & Rosa, F. (2023). Influence of formal and informal controls on trust and individual creativity. *Journal of Accounting & Organizational Change* , 19 (5), 689–705. <https://doi.org/10.1108/JAOC-08-2021-0122>
- Nambisan, S., Lyytinen, K., Majchrzak, A., & Song, M. (2017). Digital Innovation Management: Reinventing Innovation Management Research in a Digital World. *MIS Quarterly* , 41 (1), 223–238. <https://doi.org/10.25300/MISQ/2017/41:1.03>
- Narver, J. C., & Slater, S. F. (1990). The Effect of a Market Orientation on Business Profitability. *Journal of Marketing* , 54 (4), 20–35. <https://doi.org/10.1177/002224299005400403>
- Nastasi, J. A., McGarry, K. M., Peters, K. P., León, Y., Bacotti, J. K., & Gravina, N. (2025). A Qualitative Analysis of Variables Contributing to Registered Behavior Technicians' Burnout and Turnover in Florida. *Behavior Analysis in Practice* , 18 (4), 1139–1151. <https://doi.org/10.1007/s40617-024-01033-w>
- Ndlovu, M.N., Ndlovu, E.N., & Ebewo, P.E. (2025). The Intersection of Business Models and SME Performance: A Bibliometric Analysis of Research Trends. *Administrative Sciences* , 15 (4), 143. <https://doi.org/10.3390/admsci15040143>
- O'Reilly, C. A., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in Organizational Behavior* , 28 , 185–206. <https://doi.org/10.1016/j.riob.2008.06.002>

- Parida, V., Westerberg, M., & Frishammar, J. (2012). Inbound Open Innovation Activities in High-Tech SMEs: The Impact on Innovation Performance: *JOURNAL OF SMALL BUSINESS MANAGEMENT*. *Journal of Small Business Management* , 50 (2), 283–309. <https://doi.org/10.1111/j.1540-627X.2012.00354.x>
- Paul, D., & Mathew, J. (2025). Using internal resources for transition from temporary to sustained competitive advantage. In *Empowering Sustainable Performance and Competitive Advantage in Tourism* (pp. 57–88). IGI Global Scientific Publishing. <https://www.igi-global.com/chapter/using-internal-resources-for-transition-from-temporary-to-sustained-competitive-advantage/382740>
- Penrose, J. (2017). *The Theory of the Growth of the Firm* (Vol. 1). Oxford University Press. <https://doi.org/10.1093/oso/9780198753940.003.0011>
- PT Dayamitra Telekomunikasi Tbk. (2022). *Annual Report 2022*. PT Dayamitra Telekomunikasi Tbk. Annual Report 2022. <https://www.mitratel.co.id/wp-content/uploads/2023/03/Laporan-Tahunan-2022.pdf>
- PT Dayamitra Telekomunikasi Tbk. (2025). *Annual Report 2025*. PT Dayamitra Telekomunikasi Tbk. <https://www.mitratel.co.id/wp-content/uploads/2026/04/AR-2025-MTEL-Lengkap-300426-mid-res-.pdf>
- PT Indosat Ooredoo Hutchison Tbk (IOH). (2022). *2022 Annual Report* . PT Indosat Ooredoo Hutchison Tbk (IOH). https://indosatooredoo.com/portal/ar/ioh-investor-document?_deftabid=0#
- PT Indosat Ooredoo Hutchison Tbk (IOH). (2025). *Annual Report 2025*. PT Indosat Ooredoo Hutchison Tbk (IOH). https://indosatooredoo.com/portal/ar/ioh-investor-document?_deftabid=0#
- PT Telkom Indonesia Tbk. (2022). *Annual Report 2022*. PT Telkom Indonesia Tbk. https://www.telkom.co.id/minio/show/data/lampiran/1681718955967_Laporan%20Tahunan%20Telkom%202022_website.pdf
- PT Telkom Indonesia Tbk. (2025). *Annual Report 2025*. PT Telkom Indonesia Tbk. https://www.telkom.co.id/minio/show/data/lampiran/1778677674968_original_TLKM-2025AR-fullbook-54-00-hires.pdf
- PT XLSMART Telecom Sejahtera Tbk. (2022a). *Annual Report 2022*. PT XLSMART Telecom Sejahtera Tbk. <https://static-cms-xlsmart.xlaxiata.my.id/production/2026/04/20/be2ab92a-5de8-495b-839e-da343e4bff9d.pdf>
- PT XLSMART Telecom Sejahtera Tbk. (2025). *Annual Report 2025*. PT XLSMART Telecom Sejahtera Tbk. <https://static-cms-xlsmart.xlaxiata.my.id/production/2026/04/20/be2ab92a-5de8-495b-839e-da343e4bff9d.pdf>
- Robb, C. C., Brownell, K. M., Brännback, M., & Rumi, S. (2025). Applying resource-based theory to social value creation: A conceptual model of contributive advantage. *Journal of Small Business Management* , 63 (1), 147–169. <https://doi.org/10.1080/00472778.2024.2309498>
- Rumelt, R.P. (1997). Towards a Strategic Theory of the Firm. In NJ Foss (Ed.), *Resources, Firms, And Strategies* (pp. 131–145). Oxford University PressOxford. <https://doi.org/10.1093/oso/9780198781806.003.0011>
- Rust, R.T., Lemon, K.N., & Zeithaml, V.A. (2004). Return on Marketing: Using Customer Equity to Focus Marketing Strategy. *Journal of Marketing* , 68 (1), 109–127. <https://doi.org/10.1509/jmkg.68.1.109.24030>

- Samadhiya, A., & Agrawal, R. (2024). Total productive maintenance and sustainability performance: Resource-based view perspective . *Benchmarking: An International Journal* , 31 (7), 2177–2196. <https://www.emerald.com/bij/article/31/7/2177/1232233>
- Sirmon, D.G., Hitt, M.A., Ireland, R.D., & Gilbert, B.A. (2011). Resource Orchestration to Create Competitive Advantage: Breadth, Depth, and Life Cycle Effects. *Journal of Management* , 37 (5), 1390–1412. <https://doi.org/10.1177/0149206310385695>
- Smith, D. C., & Aaker, D. A. (1992). Managing Brand Equity: Capitalizing on the Value of a Brand Name. *Journal of Marketing* , 56 (2), 125. <https://doi.org/10.2307/1252048>
- Srivastava, R. K., Shervani, T. A., & Fahey, L. (1998). Market-Based Assets and Shareholder Value: A Framework for Analysis. *Journal of Marketing* , 62 (1), 2–18. <https://doi.org/10.1177/002224299806200102>
- Teece, D.J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal* , 28 (13), 1319–1350. <https://doi.org/10.1002/smj.640>
- Teece, D.J. (2012). Dynamic Capabilities: Routines versus Entrepreneurial Action. *Journal of Management Studies* , 49 (8), 1395–1401. <https://doi.org/10.1111/j.1467-6486.2012.01080.x>
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal* , 18 (7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z)
- Utami, H., & Alamanos, E. (2022). Resource-based theory. *Resource-Based Theory. A Review. Water Act* , 2016 , 1–26.
- Vargo, S. L., & Lusch, R. F. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing* , 68 (1), 1–17. <https://doi.org/10.1509/jmkg.68.1.1.24036>
- Verhoef, P.C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research* , 122 , 889–901. <https://doi.org/10.1016/j.jbusres.2019.09.022>
- Von Hippel, E. (1994). “Sticky Information” and the Locus of Problem Solving: Implications for Innovation. *Management Science* , 40 (4), 429–439. <https://doi.org/10.1287/mnsc.40.4.429>
- Vorhies, D. W., & Morgan, N. A. (2005). Benchmarking Marketing Capabilities for Sustainable Competitive Advantage. *Journal of Marketing* , 69 (1), 80–94. <https://doi.org/10.1509/jmkg.69.1.80.55505>
- Weil, K. E. (1985). PORTER, Competitive advantage, creating and sustaining superior performance. *Revista de Administração de Empresas* , 25 (2), 82–84. <https://doi.org/10.1590/S0034-75901985000200009>
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal* , 5 (2), 171–180. <https://doi.org/10.1002/smj.4250050207>
- Zollo, L., Rialti, R., Tron, A., & Ciappei, C. (2021). Entrepreneurial passion, orientation and behavior: The moderating role of linear and nonlinear thinking styles. *Management Decision* , 59 (5), 973–994.