

**DIGITAL RESOURCE THEORY: A CONFIGURATIONAL
EXTENSION OF THE RESOURCE-BASED VIEW FOR AI,
DATA, AND CLOUD ENVIRONMENTS**

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ABSTRACT: This study develops Digital Resource Theory (DRT) as a theoretical extension of the Resource-Based View (RBV) to explain competitive advantage in digitally intensive environments. While RBV emphasizes valuable, rare, inimitable, and non-substitutable resources, its assumptions of resource ownership, scarcity, and relative stability limit its applicability in contexts shaped by artificial intelligence, big data, and cloud computing. Drawing on insights from the Digital Resource View, Dynamic Capability Theory, and the Knowledge-Based View, the study adopts a conceptual theory-building approach to propose a configurational framework in which competitive advantage is argued to emerge from the synergistic interaction of AI capability, data resources, and cloud infrastructure. The framework further introduces recombining as a driver of innovation capability and conceptualizes scalability and environmental uncertainty as key boundary conditions shaping digital resource effectiveness. It is proposed that value creation in digital environments is configuration-driven, scalable, and context-dependent rather than based on isolated resource possession. The study contributes by advancing a coherent theoretical structure, introducing novel constructs, and offering a set of testable propositions suitable for empirical validation using approaches such as PLS-SEM and fsQCA. The framework provides a foundation for understanding digital competition, particularly in emerging economies undergoing rapid technological transformation.

Keywords: Digital Resource Theory (DRT); Digital Resource View (DRV); Resource-Based View (RBV); Dynamic Capabilities; Digital Transformation, Competitive Advantage

INTRODUCTION

The global business landscape has undergone a profound transformation driven by the rapid proliferation of digital technologies such as artificial intelligence (AI), big data analytics, cloud computing, and platform-based ecosystems. These technologies have fundamentally altered how firms create, deliver, and capture value, giving rise to what is widely referred to as the digital economy. In this paradigm, digital assets ranging from data repositories and machine learning algorithms to cloud infrastructure and digital platforms have emerged as critical strategic resources shaping firm competitiveness and long-term performance. Unlike traditional resources, digital assets exhibit distinctive properties such as scalability, near-zero marginal cost, real-time adaptability, and network effects, enabling firms to expand operations rapidly and innovate continuously (Bharadwaj et al., 2013; Brynjolfsson & McAfee, 2014; Nambisan et al., 2019; Rai et al., 2019; Perifanis & Kitsios, 2023). Consequently, firms are increasingly shifting toward digitally

enabled, knowledge-intensive, and platform-driven strategies that emphasize integration, connectivity, and ecosystem participation (Bennich, 2024; Secundo et al., 2025).

The strategic importance of digital resources has intensified competition across industries, particularly in emerging economies where digital transformation is reshaping sectors such as financial services, agriculture, healthcare, and retail. The rise of FinTech in the Global South, for instance, illustrates how digital platforms, mobile technologies, and data-driven services can disrupt traditional business models, enhance financial inclusion, and create new value propositions. These developments indicate that competitive advantage in the digital era is increasingly associated with firms' ability to configure, recombine, and scale digital assets in dynamic and uncertain environments, rather than relying solely on resource possession (Amit & Han, 2017; Tan et al., 2024; Ferreira et al., 2025). This shift reflects a broader movement toward digital resource orchestration, in which value is generated through the interaction and alignment of multiple digital capabilities rather than from isolated assets (Adamu, 2025a; Adamu, 2025b).

Despite the growing dominance of digital technologies, existing strategic management theories, particularly the Resource-Based View (RBV), remain limited in explaining competitive advantage in digital contexts. RBV posits that firms achieve sustained competitive advantage through resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). While this framework has been highly influential, it is grounded in assumptions of resource scarcity, firm ownership, and relative stability, which are increasingly incompatible with digital resources that are scalable, shareable, and ecosystem-dependent (Barney, 2001; Madhani, 2010; Helfat et al., 2023; Pulka & Tijjani, 2023; Iliyas & Barca, 2025).

A major limitation of RBV lies in its static orientation, which emphasizes existing resource stocks rather than the dynamic processes through which resources are continuously reconfigured. In digital environments characterized by rapid technological change and uncertainty, firms must constantly adapt, integrate, and recombine resources, rendering static models insufficient (Teece et al., 1997; Marzi, 2022; Matsunaga, 2024). Moreover, RBV exhibits an ownership bias, assuming that competitive advantage is derived from internally controlled resources, whereas digital ecosystems are inherently networked and interdependent, with value co-created across platforms, partners, and users (Adner, 2017; Jacobides et al., 2018; Trier et al., 2023). It also fails to adequately capture the scalability logic of digital resources, where assets can be replicated and deployed at near-zero marginal cost, enabling exponential growth (Brynjolfsson & McAfee, 2014; Parker et al., 2016; Moderno et al., 2024).

Although extensions such as Dynamic Capability Theory (DCT) and the Knowledge-Based View (KBV) have attempted to address some of these limitations, they remain insufficient in capturing the full complexity of digital competition. In particular, existing theories do not adequately conceptualize digital resource synergy, platform-based advantage, or recombination key mechanisms through which value is created in digital environments (Amit & Han, 2017; Cuthbertson & Furseth, 2022; Tan et al., 2024; Sjödin et al., 2023). These limitations highlight a critical theoretical gap: the absence of a unified framework that explains how digital resources interact, recombine, and scale to generate competitive advantage in dynamic and ecosystem-driven environments (Helfat et al., 2023; Adamu, 2025a; Adamu, 2025b).

This gap raises a fundamental theoretical question:

How do firms achieve and sustain competitive advantage when strategic resources are inherently scalable, recombining, and embedded within digital ecosystems?

Addressing this question requires a reconceptualization of resource logic beyond static ownership toward interaction-based and configuration-dependent mechanisms of value creation.

In response, this study develops Digital Resource Theory (DRT) as an extension of RBV, building on the Digital Resource View (DRV) to reconceptualize firm resources in digital environments. The study integrates insights from RBV, DCT, and KBV to propose a configurational framework in which competitive advantage is argued to emerge from the synergistic interaction of AI capability, data resources, and cloud infrastructure. It introduces key constructs such as digital resource synergy, recombining, scalability logic, and uncertainty-driven mechanisms, and outlines a multi-method empirical pathway using PLS-SEM and fsQCA. Accordingly, the study advances the proposition that competitive advantage in digital environments may be better understood as configuration-driven, scalability-enabled, and context-dependent, rather than as a function of isolated resource possession. By situating the analysis within emerging economies, the study enhances the practical relevance of DRT and positions it as a forward-looking framework for understanding competitive advantage in increasingly complex, uncertain, and technology-driven environments (Fiss, 2011; Hossain et al., 2025; Bennich, 2024; Tursunbayeva & Gal, 2024).

Theoretical Background and Literature Review

Evolution of Resource-Based Thinking

The intellectual foundation of resource-based thinking in strategic management can be traced to the seminal work of Edith Penrose (1959), who reconceptualized the firm as a collection of productive resources rather than merely a production function. Penrose argued that firms are inherently heterogeneous because they possess unique bundles of tangible and intangible resources, including managerial capabilities, knowledge, and experience. She emphasized that firm growth is constrained by internal resource deployment capabilities rather than external market conditions alone. Such a standpoint marked a critical departure from traditional industrial organization economics by shifting attention from industry structure to firm-specific characteristics as the primary determinants of performance. Importantly, Penrose introduced the notion that the productive services derived from resources, rather than the resources themselves, are central to value creation, thereby laying the groundwork for subsequent developments in resource-based theory (Penrose, 1959). This foundational insight has been widely acknowledged as the intellectual precursor to modern resource-based theories (Barney & Arikan, 2005; Helfat et al., 2023).

Resource-Based View (RBV) and Its Limitations in Digital Contexts

Building on Penrose's foundational insights, Wernerfelt (1984) introduced the Resource-Based View (RBV) as a strategic framework emphasizing firm-specific resources as the basis of competitive advantage. Barney (1991) further refined this perspective through the VRIN criteria,

valuable, rare, inimitable, and non-substitutable, establishing conditions for sustained advantage. Over time, RBV evolved into a dominant paradigm in strategic management, extending its focus to value creation, resource orchestration, and firm-specific capabilities (Barney, 2001; Barney & Mackey, 2016). Despite these developments, the core premise remains that performance differentials are driven by resource heterogeneity and immobility rather than industry structure (Wernerfelt, 1984; Barney, 1991). However, increasing digitalization has raised concerns regarding RBV's continued relevance in rapidly evolving environments (Madhani, 2010; Pulka & Tijjani, 2023).

Although RBV has been criticized for its static orientation, subsequent theoretical developments particularly Dynamic Capability Theory, have partially addressed this limitation. Helfat et al. (2023) argue that incorporating dynamic capabilities such as sensing, seizing, and transforming enhances the explanatory power of resource-based reasoning in contexts characterized by innovation and uncertainty. Nevertheless, important gaps remain. Existing frameworks emphasize processes of resource reconfiguration but pay limited attention to the structural and economic properties of digital resources, including scalability and near-zero marginal cost (Brynjolfsson & McAfee, 2014; Parker et al., 2016).

Moreover, RBV retains a firm-centric perspective that does not fully account for the ecosystem-embedded nature of digital competition, where value is co-created across platforms, partners, and users (Adner, 2017; Jacobides et al., 2018). It also inadequately captures key features of digital resources, such as recombining and configurational value creation, through which resources are continuously integrated to drive innovation (Amit & Han, 2017; Tan et al., 2024). Increasing environmental uncertainty further compounds these limitations, challenging the explanatory power of traditional resource-based models (Marzi, 2022; Matsunaga, 2024).

Taken together, these limitations suggest that while RBV and its dynamic extensions offer valuable insights into resource orchestration, they do not fully explain how digital resources interact in scalable, recombining, and ecosystem-embedded systems. This gap motivates the development of Digital Resource Theory (DRT), which extends existing frameworks by incorporating configurational, synergistic, and system-level mechanisms of value creation in digital environments.

Post-RBV Theoretical Extensions

Dynamic Capability Theory (DCT)

In response to the static limitations of RBV, Dynamic Capability Theory (DCT), developed by Teece, Pisano, and Shuen (1997), emphasizes the firm's ability to integrate, build, and reconfigure internal and external resources in response to environmental changes. DCT shifts the focus from resource possession to resource orchestration, highlighting key processes such as sensing opportunities, seizing them, and transforming organizational capabilities accordingly. Such a perspective is particularly relevant in dynamic and uncertain environments where firms must continuously adapt to technological disruptions and evolving market conditions (Teece et al., 1997; Helfat et al., 2023). Recent studies have further demonstrated the relevance of dynamic capabilities

in digital contexts, particularly in enabling firms to leverage AI and digital technologies for innovation and value creation (Sjödín et al., 2023; Sandeep et al., 2025).

However, while DCT addresses the issue of dynamism, it does not fully capture the unique properties of digital resources, such as scalability, recombining, and platform-based interactions. Specifically, DCT focuses more on processes than on the structural characteristics and interactions of digital assets, leaving a gap in explaining how digital resources themselves generate value through configurational synergy (Adamu, 2025a; Amit & Han, 2017). This limitation suggests the need for an extended framework that integrates both dynamic processes and digital resource properties.

Knowledge-Based View (KBV)

The Knowledge-Based View (KBV) extends RBV by identifying knowledge as the most strategically significant resource within the firm. Scholars such as Grant (1996) argue that firms exist because they are more efficient than markets in integrating, storing, and applying knowledge. KBV emphasizes the importance of tacit knowledge, organizational learning, and knowledge integration in generating competitive advantage. This perspective has been widely applied in explaining innovation, intellectual capital development, and knowledge-driven performance (Cuthbertson & Furseth, 2022).

Despite its contributions, KBV remains limited in addressing the broader spectrum of digital assets, particularly those that extend beyond traditional knowledge constructs. In digital environments, value is increasingly derived from data infrastructures, algorithms, and AI-driven systems, which operate at scales and speeds that surpass conventional knowledge processes (Papagiannidis et al., 2021; Perifanis & Kitsios, 2023). Furthermore, KBV does not adequately capture the role of digital recombining and system-level integration, which are essential for continuous innovation in digitally enabled firms (Secundo et al., 2025). As such, while KBV provides a strong foundation for understanding intangible resources, it requires extension to fully explain value creation in the digital economy.

Other Extensions of RBV

Additional theoretical perspectives have further expanded the scope of RBV by incorporating relational and institutional dimensions of strategy. The Relational View (Dyer & Singh, 1998) emphasizes that competitive advantage can arise from inter-organizational relationships, highlighting the importance of trust, collaboration, and joint value creation across firms. Such a perspective is particularly relevant in networked environments where firms rely on partnerships and alliances to access complementary resources.

Similarly, the Institutional-Based View (Peng, 2002) underscores the role of formal and informal institutional environments in shaping firm strategies and performance. Recent studies have extended this perspective to digital contexts, demonstrating how institutional pressures drive digital transformation and influence organizational behavior (Bennich, 2024; Schrödter & Weißenberger, 2024). While these extensions acknowledge the importance of external relationships and contextual

factors, they do not fully address the transformative impact of digital technologies, particularly the emergence of platform ecosystems, AI-driven systems, and network-based value creation (Rai et al., 2019; Trier et al., 2023).

Digital Economy and Strategic Resources

The emergence of the digital economy has fundamentally redefined the nature and characteristics of strategic resources. Unlike traditional resources, digital assets exhibit non-rivalry, meaning that their use by one firm does not diminish their availability to others. For example, data and software can be simultaneously utilized across multiple applications without depletion, challenging conventional assumptions about resource scarcity and exclusivity (Varian, 2019; Willie, 2025).

Another defining feature is scalability, whereby digital resources can be replicated and distributed at minimal marginal cost, enabling firms to achieve rapid growth and global expansion. This property underpins the dominance of digital firms and platform-based organizations, which leverage scalable infrastructures to serve large and diverse user bases efficiently (Parker et al., 2016; Moderno et al., 2024). In addition, digital resources are characterized by strong network effects, where the value of a product or service increases as more users participate in the network, creating self-reinforcing mechanisms that enhance competitive advantage and market concentration (Katz & Shapiro, 1985; Nambisan et al., 2019; Tan et al., 2024).

Furthermore, digital environments are increasingly shaped by uncertainty and rapid technological evolution, requiring firms to continuously adapt and innovate (Marzi, 2022; Matsunaga, 2024). In such contexts, the ability to recombine and configure digital resources dynamically becomes a critical source of competitive advantage (Amit & Han, 2017; Ferreira et al., 2025). Collectively, these characteristics suggest that traditional resource-based theories are insufficient for explaining competitive advantage in digital environments. Instead, there is a need for a more integrative and dynamic framework, such as Digital Resource Theory (DRT), that captures the unique properties, interactions, and configurational logic of digital resources in contemporary strategic contexts (Adamu, 2025a, 2025b).

Digital Resource View (DRV): Foundations, Characteristics, and Limitations

The Digital Resource View (DRV) extends the Resource-Based View (RBV) by capturing the strategic relevance of digital assets in contemporary competitive environments. While RBV conceptualizes resources as firm-controlled assets that generate value, DRV refines this perspective by focusing on digitally embedded, data-driven, and technology-enabled resources with distinct economic and strategic properties. Within this view, competitive advantage is increasingly shaped not by resource possession alone but by the interaction, integration, and orchestration of digital resources within and across organizational boundaries (Bharadwaj et al., 2013; Nambisan et al., 2019). Such a perspective aligns with emerging research highlighting the role of digital capabilities, platforms, and AI-enabled systems in transforming value creation and competitive dynamics (Rai et al., 2019; Perifanis & Kitsios, 2023).

At the core of DRV are three primary categories of digital resources: data resources, artificial intelligence (AI) capability, and cloud infrastructure. Data resources provide the informational foundation through structured and unstructured datasets that support analytics, decision-making, and customer engagement (Papagiannidis et al., 2021). AI capability enables firms to transform data into actionable insights through machine learning, automation, and intelligent systems, supported by both technological infrastructure and human expertise (Sjödin et al., 2023). Cloud infrastructure provides the scalable and flexible backbone that supports storage, processing, and real-time deployment of digital systems (Marston et al., 2011; Verhoef et al., 2021). Together, these resources form an interconnected system in which value is generated through complementarity and synergy rather than independent effects, reflecting a configurational logic that departs from traditional RBV assumptions.

Digital resources exhibit distinctive characteristics that further differentiate them from traditional assets and necessitate a revised theoretical lens. One key feature is scalability, which allows digital assets such as software, data, and algorithms to be replicated and deployed at near-zero marginal cost, enabling rapid expansion and the exploitation of network effects (Brynjolfsson & McAfee, 2014; Parker et al., 2016). Another defining characteristic is recombining, referring to the modular and flexible nature of digital resources that allows continuous reconfiguration into new products, services, and applications, thereby supporting ongoing innovation (Yoo et al., 2010; Secundo et al., 2025).

In addition, digital resources are inherently ecosystem-embedded, meaning their value depends on interactions within broader technological and institutional networks, including platforms, users, and complementary technologies (Jacobides et al., 2018; Bennich, 2024). This embeddedness reflects a shift from firm-centric to network-based value creation. Digital resources also exhibit real-time adaptability, enabling firms to process information, respond to environmental changes, and adjust operations instantaneously, thereby enhancing responsiveness and operational efficiency in dynamic environments (Verhoef et al., 2021; Marzi, 2022).

Despite these contributions, DRV remains an emerging and theoretically fragmented perspective. Existing research is dispersed across multiple disciplines, leading to a lack of conceptual integration and a tendency to examine digital technologies in isolation rather than as interdependent systems (Nambisan et al., 2019; Verhoef et al., 2021). Consequently, much of the literature adopts a linear, additive perspective, failing to account for the configurational and synergistic nature of interactions among digital resources. This limitation restricts the ability to explain complex phenomena such as platform dominance, digital ecosystem dynamics, and AI-driven innovation. These gaps highlight the need to advance DRV into a more comprehensive and structured framework, namely, Digital Resource Theory (DRT), that captures the dynamic, scalable, and system-level properties of digital resources in contemporary strategic environments.

Development of Digital Resource Theory (DRT)

Definition of DRT

Digital Resource Theory (DRT) is advanced as a higher-order theoretical extension of the Resource-Based View (RBV) and the emerging Digital Resource View (DRV), designed to explain the sources of competitive advantage in digitally intensive environments. While RBV emphasizes the strategic value of firm-specific resources and Dynamic Capability Theory highlights the processes of resource reconfiguration, DRT integrates these perspectives and reconceptualizes resources within the unique context of digital transformation.

Formally, Digital Resource Theory (DRT) can be defined as:

“A theoretical framework that posits that sustainable competitive advantage in digital environments arises from the synergistic configuration, continuous recombination, and scalable deployment of digital resources such as data, artificial intelligence, and cloud infrastructure within dynamic and interconnected ecosystems under conditions of uncertainty.”

This definition reflects a shift from resource possession (RBV) and resource reconfiguration (DCT) toward resource configuration and synergy, emphasizing that the value of digital resources is not inherent in individual assets but emerges from their interaction, integration, and alignment within broader technological and institutional contexts. DRT therefore provides a more comprehensive lens for understanding how firms generate and sustain competitive advantage in the digital economy.

Core Assumptions of Digital Resource Theory (DRT)

Configurational Advantage

A central assumption of Digital Resource Theory (DRT) is that competitive advantage is configurational rather than atomistic, meaning that value is created through the combination and alignment of multiple digital resources rather than through isolated assets. Unlike the RBV's focus on individual VRIN resources, DRT posits that no single digital resource whether data, AI capability, or cloud infrastructure is sufficient to generate sustained advantage on its own. Instead, advantage arises from the specific configuration and interaction of these resources in a manner that is complex, interdependent, and difficult for competitors to replicate (Amit & Han, 2017; Adamu, 2025a).

This configurational logic aligns with recent advances in strategic management that emphasize complementarities, systemic interactions, and equifinality in value creation processes (Fiss, 2011; Helfat et al., 2023). It also supports the application of configurational analytical approaches, such as fuzzy-set Qualitative Comparative Analysis (fsQCA), which are particularly suited for capturing non-linear and interaction-based relationships inherent in digital environments (Hossan et al., 2025).

Digital Resource Synergy

DRT further assumes that digital resources generate synergistic effects, where the combined impact of multiple resources exceeds the sum of their individual contributions. For instance, data alone has limited value without AI capabilities to extract insights, while AI systems depend on scalable cloud infrastructure for processing and deployment. When these resources are integrated, they produce multiplicative value through enhanced analytics, automation, and innovation.

This synergy reflects a non-linear value-creation mechanism, distinguishing digital resources from traditional assets, which often exhibit additive effects. It also underscores the importance of integration capabilities, system architecture, and digital alignment in leveraging digital technologies for competitive advantage (Bharadwaj et al., 2013; Tan et al., 2024; Ferreira et al., 2025). Within DRT, digital resource synergy represents the core mechanism through which value is realized, reinforcing the shift from resource possession to resource configuration (Adamu, 2025b).

Recombinability

Another fundamental assumption of DRT is that digital resources are inherently recombinable, allowing firms to continuously reconfigure them into new applications, services, and business models. Unlike traditional resources that are often fixed in their use, digital assets are modular, flexible, and programmable, enabling rapid innovation through recombination.

Recombinability enhances organizational agility and supports experimentation, as firms can leverage existing digital components to create new value propositions without significant additional investment. This characteristic is particularly important in dynamic environments where innovation cycles are short, and adaptability is critical (Yoo et al., 2010; Sjödin et al., 2023; Secundo et al., 2025). It also aligns with emerging perspectives on digital innovation, where value creation is driven by the continuous recombination of data, algorithms, and platforms (Amit & Han, 2017).

Scalability Logic

DRT incorporates the principle of scalability logic, which recognizes that digital resources can be expanded and deployed across markets at minimal marginal cost. This scalability enables firms to achieve exponential growth, exploit network effects, and rapidly scale operations across geographic and organizational boundaries.

Unlike traditional resources that are constrained by physical limitations, digital assets such as software, algorithms, and platforms can be replicated infinitely. This challenges the RBV assumption of resource scarcity and introduces a new dimension of competitive advantage based on scale amplification rather than scarcity (Brynjolfsson & McAfee, 2014; Parker et al., 2016; Moderno et al., 2024). As such, scalability becomes a central driver of performance in digital environments, reinforcing the importance of digital infrastructure and platform strategies (Rai et al., 2019).

Uncertainty-Driven Imitation Barriers

While digital resources may appear easily replicable due to their non-physical nature, DRT posits that uncertainty-driven imitation barriers play a critical role in sustaining competitive advantage. The complexity, opacity, and interdependence of digital systems particularly AI algorithms, big data infrastructures, and integrated platforms make it difficult for competitors to fully understand and replicate the underlying mechanisms of value creation.

This form of imitation barrier extends beyond traditional RBV concepts such as causal ambiguity and path dependency by emphasizing algorithmic complexity, data uniqueness, and systemic uncertainty (Teece, 2018; Marzi, 2022; Matsunaga, 2024). As digital systems become more sophisticated and data-intensive, the uncertainty surrounding their operation increases, thereby reinforcing competitive advantage and limiting imitation (Wang & Wang, 2024).

Ecosystem Embeddedness

Finally, DRT assumes that digital resources are embedded within broader ecosystems, where value is co-created through interactions among multiple actors, including firms, customers, developers, and platform providers. Unlike traditional firm-centric models, DRT recognizes that competitive advantage often emerges from participation in and orchestration of digital ecosystems and platforms.

Ecosystem embeddedness implies that firms must not only manage internal resources but also strategically position themselves within networks of complementary assets and partners. This standpoint aligns with ecosystem theory, which emphasizes interdependence, co-evolution, and shared value creation (Adner, 2017; Jacobides et al., 2018). Recent studies further highlight the role of institutional pressures and digital governance structures in shaping ecosystem participation and value creation (Bennich, 2024; Schrödter & Weißenberger, 2024; Trier et al., 2023). Thus, ecosystem embeddedness represents a critical dimension of DRT, reflecting the shift from firm-level advantage to network-enabled and platform-driven competitive advantage.

Theoretical Model of Digital Resource Theory (DRT)

The theoretical model of Digital Resource Theory (DRT) advances a configurational and synergistic framework in which competitive advantage emerges not from isolated digital assets but from the interdependent relationships among AI capability, data resources, and cloud infrastructure. These three components represent the foundational pillars of digital resources and collectively determine firm performance in digitally intensive environments. Building on the Digital Resource View (DRV), the model emphasizes that competitive advantage arises from novel combinations and configurations of resources, rather than individual assets (Amit & Han, 2017; Adamu, 2025a, 2025b). Within this framework, data resources serve as the raw input for value creation, AI capability functions as the analytical engine that transforms data into actionable intelligence, and cloud infrastructure provides the scalable backbone that enables integration, processing, and deployment of digital systems (Papagiannidis et al., 2021; Willie, 2025; Moderno et al., 2024; Verhoef et al., 2021).

The interaction among these resources gives rise to digital resource synergy, which constitutes the core mechanism of value creation in DRT. Rather than operating independently, data, AI, and cloud infrastructure are mutually reinforcing, producing multiplicative effects on innovation, efficiency, and customer value. High-quality data enhances AI performance, while scalable cloud systems amplify the reach and effectiveness of both data and AI-driven processes. This synergy reflects a non-linear, configuration-dependent logic of value creation, consistent with recent research on digital transformation and resource complementarity (Tan et al., 2024; Ferreira et al., 2025; Cuthbertson & Furseth, 2022). As such, competitive advantage is conceptualized as an emergent outcome of system-level integration and alignment, rather than the additive contribution of individual resources.

Furthermore, the model incorporates contextual and dynamic conditions, particularly scalability and environmental uncertainty, which shape the effectiveness of digital resource configurations. Scalability enables firms to expand operations at minimal marginal cost, amplifying the performance impact of digital resources (Parker et al., 2016), while environmental uncertainty strengthens the value of digital synergy by enhancing firms' ability to adapt, innovate, and respond to disruptions (Marzi, 2022; Matsunaga, 2024). Consequently, the model departs from traditional linear frameworks by emphasizing interaction effects, complementarities, and systemic alignment, and provides a theoretical foundation for propositions (P1–P6), capturing mediation (digital synergy), moderation (scalability and uncertainty), and configurational logic in digital value creation.

Propositions Development

Building on the theoretical foundations of Digital Resource Theory (DRT) and the conceptual model developed in this study, the following propositions articulate the relationships among digital resources, their configurational interactions, and competitive advantage. The propositions reflect a multi-layered logic that incorporates mediation, moderation, and configurational effects to capture the complexity of value creation in digital environments.

P1: Digital Resource Synergy as a Mediating Mechanism

Digital Resource Theory posits that digital assets do not generate value independently; rather, value emerges through their coordinated interaction. The causal mechanism underlying this mediation lies in functional integration and capability amplification. Data resources provide the raw informational inputs; AI capabilities transform these inputs into actionable insights through analytics and learning algorithms; and cloud infrastructure enables scalable processing, storage, and real-time deployment.

Through this integration, fragmented digital assets are transformed into a unified system that enhances decision quality, operational efficiency, and innovation speed. For instance, high-quality data alone has limited strategic value unless processed through AI systems, while AI capabilities cannot function effectively without both data inputs and scalable infrastructure. The interaction among these elements produces synergistic effects, where the combined outcome exceeds the sum of individual contributions. This synergy enables firms to optimize processes, personalize services,

and respond dynamically to environmental changes, thereby translating digital resource configurations into measurable performance outcomes. In this sense, digital resource synergy operates as the mechanism through which isolated digital inputs are converted into sustained competitive advantage.

Proposition 1 (P1): *Digital resource synergy mediates the relationship between AI capability, data resources, and cloud infrastructure and competitive advantage.*

P2: Recombinability and Innovation Capability

A defining feature of digital resources is their modularity and flexibility, which allows them to be continuously reconfigured into new combinations. This recombining ability enables firms to experiment with existing digital assets, develop new products and services, and respond rapidly to changing market conditions. Through recombination, firms can leverage existing digital infrastructure to generate novel solutions without substantial additional investment, thereby enhancing their innovation capability. This aligns with the view that innovation in digital environments is driven more by recombination than by resource accumulation.

Proposition 2 (P2): *Recombining ability of digital resources positively influences innovation capability.*

P3: Scalability as a Moderating Mechanism

Digital resources are inherently scalable, meaning they can be replicated and deployed across multiple contexts at minimal marginal cost. This scalability amplifies the impact of digital resources on firm performance by enabling rapid expansion, broader market reach, and the exploitation of network effects. Within the DRT framework, scalability acts as a moderating factor, strengthening the relationship between digital resources and competitive advantage. Firms with highly scalable digital infrastructures are better able to translate resource configurations into superior performance outcomes.

Proposition 3 (P3): *Scalability positively moderates the relationship between digital resources and competitive advantage, such that the relationship is stronger at higher levels of scalability.*

P4: Direct Effect of Digital Resource Synergy on Competitive Advantage

At the core of DRT is the assertion that digital resource synergy is the primary driver of competitive advantage. When AI capability, data resources, and cloud infrastructure are effectively integrated, they produce multiplicative value through enhanced analytics, operational efficiency, and innovation. This synergy enables firms to create superior customer value, optimize processes, and maintain strategic flexibility, all of which contribute to sustained competitive advantage.

Proposition 4 (P4): *Digital resource synergy positively influences competitive advantage.*

P5: Moderating Role of Environmental Uncertainty

The effectiveness of digital resource configurations is contingent on the external environment. In conditions of high environmental uncertainty characterised by rapid technological change, market volatility, and regulatory shifts, firms require greater adaptability and responsiveness. Under such conditions, the value of digital resource synergy becomes more pronounced, as integrated digital systems enable firms to sense and respond to changes more effectively. Therefore, environmental uncertainty strengthens the relationship between digital synergy and competitive advantage.

Proposition 5 (P5): *Environmental uncertainty positively moderates the relationship between digital resource synergy and competitive advantage, such that the relationship is stronger under high levels of uncertainty.*

P6: Configurational Effect of Digital Resources

A central contribution of Digital Resource Theory is its configurational logic, which posits that competitive advantage arises from specific combinations of digital resources rather than their independent effects. Within this framework, equifinality implies that multiple configurations of AI capability, data resources, and cloud infrastructure can generate comparable levels of digital resource synergy and, consequently, similar performance outcomes.

For example, one firm may achieve competitive advantage through a data-intensive configuration, characterized by extensive proprietary datasets combined with moderate AI capability and scalable cloud infrastructure, enabling superior customer insights and targeted decision-making. In contrast, another firm may rely on an AI-intensive configuration, where advanced machine learning capabilities compensate for relatively smaller datasets by generating predictive analytics and automation efficiencies. A third configuration may emphasize cloud-enabled scalability, where moderate levels of AI and data resources are amplified through highly scalable and flexible cloud infrastructure, enabling rapid deployment and market expansion.

These alternative pathways illustrate that competitive advantage in digital environments does not depend on a single optimal resource combination but can emerge from different configurations, provided that the resources are effectively aligned. Thus, equifinality in DRT reflects the existence of multiple viable digital strategies through which firms can achieve similar competitive outcomes, depending on their resource endowments and strategic orientation.

Proposition 6 (P6): *The joint configuration of AI capability, data resources, and cloud infrastructure positively influences digital resource synergy.*

Synthesis of Propositions

Collectively, the six propositions establish a comprehensive theoretical structure for DRT. The model integrates:

- Mediation (P1) → Explaining how value is created

- Direct effect (P4) → Core performance driver
- Moderation (P3, P5) → Contextual amplification
- Direct innovation pathway (P2) → Extension to innovation outcomes
- Configurational logic (P6) → System-level interaction

This multi-dimensional structure ensures that DRT captures the complex, dynamic, and interconnected nature of digital competition, positioning it as a robust framework for future empirical testing and theoretical advancement.

Conceptual Framework

The conceptual framework illustrates that AI capability, data resources, and cloud infrastructure serve as the core digital inputs, but their effects on performance are not direct. Instead of acting independently, these resources are configured together and converge into a central construct digital resource synergy. This reflects the key logic of Digital Resource Theory (DRT), which emphasizes that value is created not from isolated digital assets, but from how effectively they are integrated and aligned within the firm, as indicated in the framework below.

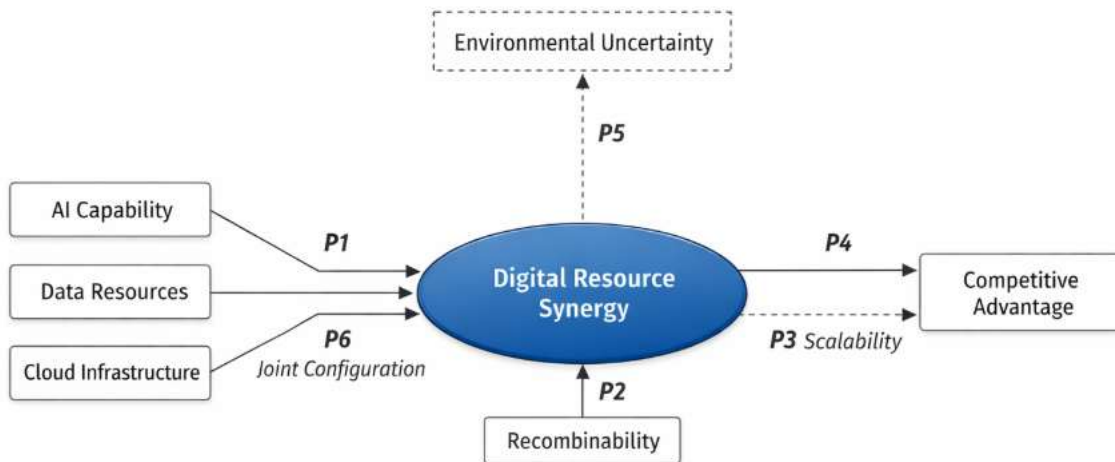


Figure 1. Conceptual Framework

At the center of the model, digital resource synergy acts as a mediating mechanism that explains how digital resources translate into competitive advantage. This means that firms do not achieve superior performance simply by possessing AI, data, or cloud technologies; rather, they must combine them in a complementary and coordinated manner. When synergy is achieved, firms benefit from enhanced innovation, operational efficiency, and improved decision-making, which collectively drive competitive advantage.

The framework also introduces environmental uncertainty as a moderating factor, influencing the strength of the relationship between digital resource synergy and competitive advantage. In highly

dynamic and uncertain environments such as rapidly evolving digital markets, the impact of synergy becomes stronger, as firms with well-integrated digital resources are better able to adapt and respond to change. The model highlights that competitive advantage in the digital era is synergy-driven, configuration-based, and context-dependent, rather than simply resource-based.

Methodology

This study adopts a conceptual theory-building approach to develop Digital Resource Theory (DRT), drawing on established procedures for systematic theory construction in strategic management. Rather than generating empirical findings, the approach focuses on integrating, extending, and synthesizing existing theoretical perspectives to address identified gaps in the literature. Specifically, the development of DRT follows a structured process involving (i) identification of theoretical limitations in existing frameworks, (ii) conceptual abstraction of key constructs, and (iii) specification of relationships through logically derived propositions.

A critical step in this process involves the identification and definition of core constructs underpinning DRT. The selection of constructs, namely digital resource synergy, recombining, scalability logic, and ecosystem embeddedness, was guided by three criteria. First, constructs were selected based on their theoretical relevance, particularly their ability to address limitations in existing frameworks such as RBV, DCT, and KBV in explaining digital competition. Second, constructs were chosen for their distinctiveness, ensuring that each captures a unique dimension of digital resource behavior rather than duplicating existing concepts. For instance, digital resource synergy extends beyond general notions of complementarity by emphasizing the multiplicative and system-level interaction among AI capability, data resources, and cloud infrastructure. Third, constructs were evaluated based on their explanatory power in digital contexts, particularly their ability to capture characteristics such as scalability, modularity, and ecosystem interdependence that are not fully theorized in prior literature.

In addition, each construct was conceptually differentiated from related theoretical ideas. Recombining, for example, is distinguished from dynamic capabilities by focusing on the modular and programmable nature of digital resources that allows continuous reconfiguration without significant resource depletion. Similarly, ecosystem embeddedness extends beyond relational and network-based views by emphasizing the structural interdependence of digital platforms, users, and complementary technologies in value creation. Through this process, the study ensures that DRT constructs are not only theoretically grounded but also conceptually precise and non-redundant.

Analytical Lens

The analytical lens guiding this study is rooted in a configurational perspective, which assumes that competitive advantage emerges from the interaction and alignment of multiple digital resources rather than their independent effects. Within the context of DRT, this perception is operationalized through three interrelated principles: non-linearity, equifinality, and resource interaction effects.

First, non-linearity implies that the relationship between digital resources and competitive advantage is not proportional or additive. Instead, small changes in one component such as data quality or AI capability may produce disproportionately large effects when combined with other complementary resources. This reflects the multiplicative nature of digital resource synergy, where value is generated through interaction rather than accumulation.

Second, equifinality is conceptualized within DRT as the possibility that different configurations of digital resources can lead to similar performance outcomes. For example, a firm may achieve a competitive advantage through a highly data-driven configuration with moderate AI capability, while another may rely on advanced AI systems supported by a scalable cloud infrastructure. In this sense, equifinality in DRT does not merely reflect methodological assumptions of configurational research but represents a substantive theoretical claim that multiple digital pathways exist for value creation, depending on how resources are combined and aligned within specific contexts.

Third, resource interaction effects emphasize that digital resources are inherently interdependent and co-evolving. AI capability depends on data availability and quality, while both rely on cloud infrastructure for processing and deployment. These interdependencies create system-level dynamics in which the effectiveness of any single resource is contingent on the presence and configuration of others. Consequently, DRT adopts an interaction-based logic in which competitive advantage is understood as an emergent property of integrated digital systems rather than isolated resource effects.

Table 1. Theoretical Synthesis of Digital Resource Theory (DRT)

Construct	Definition (DRT Perspective)	Core Logic	Relationship in Model	Theoretical Foundation	Expected Outcome
AI Capability	The firm's ability to deploy intelligent systems for automation, prediction, and decision-making	Transforms data into actionable insights	IV → Digital Resource Synergy	DCT, KBV	Enhances analytics, innovation, and decision quality
Data Resources	Structured and unstructured data used for strategic insights and operational efficiency	Serves as the raw input for digital processes	IV → Digital Resource Synergy	RBV, KBV	Improves customer understanding and operational efficiency
Cloud Infrastructure	Scalable digital platform enabling storage, processing, and	Enables scalability and integration of digital systems	IV → Digital Resource Synergy	RBV, Digital Strategy	Supports real-time operations and system flexibility

	integration of digital resources				
Digital Resource Synergy	The combined, complementary interaction of AI, data, and cloud resources	Value is multiplicative, not additive	Mediator (IV → DV)	DRV, DRT	Drives innovation, efficiency, and strategic alignment
Recombinability	The ability to reconfigure digital resources into new applications and services	Enables continuous innovation and adaptability	IV Characteristic → Innovation Capability	DRT	Accelerates product/service innovation
Scalability Logic	The capacity to expand digital resource use at minimal marginal cost	Amplifies performance impact of digital resources	Moderator (IV → DV)	Digital Economics	Enables rapid growth and market expansion
Environmental Uncertainty	Degree of volatility and unpredictability in the external environment	Strengthens reliance on digital adaptability	Moderator (Mediator → DV)	DCT, Contingency Theory	Enhances the value of digital synergy under uncertainty
Competitive Advantage	Superior firm performance through innovation, efficiency, and market positioning	Outcome of effective digital resource configuration	Dependent Variable (DV)	RBV, DRT	Sustained firm performance and market leadership

Table 1 presents a theoretical synthesis of Digital Resource Theory (DRT) by linking each construct to its definition, underlying logic, and role within the conceptual model, thereby clarifying how digital resources collectively generate competitive advantage. The table shows that AI capability, data resources, and cloud infrastructure function as foundational inputs whose value is not independent but converges into digital resource synergy, the central mediating mechanism through which competitive advantage emerges. It further highlights recombining and scalability as critical characteristics that enhance resource effectiveness, with recombining enabling continuous innovation through the reconfiguration of digital assets, and scalability amplifying performance outcomes through cost-efficient expansion. In addition, the table demonstrates the moderating role of environmental uncertainty, indicating that the impact of digital resource synergy on competitive advantage is strengthened in dynamic and volatile environments. Overall, the synthesis illustrates that competitive advantage in the digital era arises from the synergistic configuration of digital resources, supported by recombining, amplified by scalability, and conditioned by environmental uncertainty.

Theoretical Insights from the Model

Rather than presenting statistical results, this study provides theoretical insights derived from the conceptual model and propositions. The analysis demonstrates that competitive advantage in the digital era is not driven by individual resources, but by the synergistic configuration of AI capability, data resources, and cloud infrastructure.

The model reveals that digital resource synergy serves as a central mechanism of value creation, transforming fragmented digital assets into a cohesive system capable of generating innovation, efficiency, and responsiveness. This highlights a fundamental shift from resource possession (RBV) to resource integration and configuration (DRT).

Table 2. Comparative Analysis of RBV, DCT, KBV, DRV, and DRT

Dimension	RBV	DCT	KBV	DRV	DRT (Proposed Theory)
Core Focus	Resource possession	Resource reconfiguration	Knowledge as key resource	Digital resources (data, AI, cloud)	Configurational synergy of digital resources
Key Scholars	Barney (1991), Wernerfelt (1984)	Teece et al. (1997)	Grant (1996)	Adamu (2025)	This study (DRT), Adamu (2026)
Unit of Analysis	Firm-level resources	Capabilities and processes	Knowledge integration	Digital assets	Digital resource configurations
Nature of Resources	Tangible & intangible, scarce	Dynamic and evolving	Tacit & explicit knowledge	Digital and data-driven	Scalable, recombinable, ecosystem-based
Value Creation Logic	VRIN attributes	Sensing, seizing, transforming	Knowledge creation & integration	Digital enablement	Synergy and interaction effects
View of Advantage	Based on resource heterogeneity	Based on adaptability	Based on knowledge superiority	Based on digital capability	Based on resource configuration and synergy
Assumption of Scarcity	Strong (resources are scarce)	Moderate	Moderate	Weak	Replaced with scalability logic
Role of Technology	Implicit	Supportive	Knowledge enabler	Central	Foundational and integrative
Scalability Consideration	Limited	Limited	Limited	Recognized	Core principle
Recombinability	Not emphasized	Partially implied	Limited	Recognized	Central mechanism
Ecosystem Perspective	Firm-centric	Limited	Limited	Emerging	Fully embedded in ecosystems

Imitation Barrier	VRIN (inimitability)	Path dependency	Tacitness	Digital complexity	Uncertainty-driven imitation barriers
Analytical Logic	Linear	Process-based	Knowledge-centric	Digital-centric	Configurational and non-linear
Limitations	Static, ownership bias	Abstract, hard to measure	Narrow focus	Fragmented	Still requires empirical validation
Contribution	Foundation of strategy theory	Introduces dynamism	Emphasizes knowledge	Introduces digital assets	Integrates and advances all into a unified digital theory

Table 2 provides a comparative synthesis of major strategic management theories, positioning Digital Resource Theory (DRT) as an integrative framework for explaining competitive advantage in the digital era. It shows that while the Resource-Based View (RBV) established the foundational logic of resource-driven advantage, it remains constrained by its static orientation and reliance on resource scarcity, with recent studies calling for its adaptation to digital contexts (Barney, 1991; Madhani, 2010; Helfat et al., 2023). Similarly, Dynamic Capability Theory (DCT) emphasizes adaptability through sensing, seizing, and transforming processes but pays limited attention to the structural properties of resources (Teece et al., 1997; Sjödin et al., 2023), while the Knowledge-Based View (KBV) focuses primarily on knowledge, overlooking broader digital assets such as data ecosystems and AI systems (Grant, 1996; Cuthbertson & Furseth, 2022). Although the Digital Resource View (DRV) incorporates digital assets, it remains fragmented and lacks a unified theoretical structure. In contrast, DRT integrates these perspectives into a cohesive framework centered on configurational synergy, where competitive advantage emerges from the interaction of AI capability, data resources, and cloud infrastructure (Amit & Han, 2017; Tan et al., 2024). The theory further introduces constructs such as scalability, recombining, ecosystem embeddedness, and uncertainty-driven mechanisms, which collectively address the limitations of earlier frameworks and better reflect digital value creation. The table demonstrates that DRT represents an evolutionary advancement that aligns strategic management theory with the realities of the digital economy.

Reinterpretation of Competitive Advantage

The findings reconceptualize competitive advantage as a dynamic and emergent outcome, shaped by the interaction of digital resources within a broader ecosystem. Unlike traditional theories that emphasize resource scarcity, this study shows that digital advantage is driven by:

- Scalability
- Recombinability
- Network effects

This suggests that firms can achieve sustained advantage not by restricting access to resources, but by enhancing their ability to recombine and scale digital assets effectively.

Table 3: Proposition Mapping for Digital Resource Theory (DRT)

Proposition	Constructs Involved	Relationship Type	Theoretical Logic	Expected Direction	Empirical Implication (Testability)
P1	AI Capability, Data Resources, Cloud Infrastructure → Digital Resource Synergy → Competitive Advantage	Mediation	Value is created through the interaction and complementarity of digital resources, not isolated effects	Positive (+)	Test mediation using PLS-SEM (bootstrapping indirect effects)
P2	Recombinability → Innovation Capability	Direct	Digital resources are modular and flexible, enabling continuous recombination and innovation	Positive (+)	Measure recombability and innovation using Likert scales; test via SEM regression paths
P3	Digital Resources → Competitive Advantage (moderated by Scalability)	Moderation	Scalability amplifies the performance impact of digital resources through low marginal cost expansion	Positive (+)	Test interaction term (Digital Resources × Scalability) in PLS-SEM
P4	Digital Resource Synergy → Competitive Advantage	Direct (Core Relationship)	Synergistic integration produces multiplicative value creation	Positive (+)	Core structural path in SEM; assess path coefficient significance
P5	Environmental Uncertainty × Digital Resource Synergy → Competitive Advantage	Moderation	Under high uncertainty, firms rely more on integrated digital capabilities	Positive (+ stronger under high uncertainty)	Multi-group analysis or interaction effect testing
P6	AI Capability × Data Resources × Cloud Infrastructure → Digital Resource Synergy	Configurational	Competitive advantage emerges from joint configuration (not linear addition)	Positive (joint effect)	Best tested using fsQCA (configurational analysis)

Table 3 presents a structured mapping of the propositions underpinning Digital Resource Theory (DRT), linking each theoretical statement to its corresponding constructs, relational logic, and empirical implications, thereby demonstrating that the model is both conceptually robust and empirically testable (Whetten, 1989; Hossan et al., 2025). The propositions collectively support the central premise that competitive advantage in digital environments emerges from configurational synergy rather than isolated resource effects. In particular, Proposition 1 establishes digital resource synergy as a mediating mechanism through which AI capability, data resources, and cloud infrastructure are integrated to produce performance outcomes, while Proposition 4 identifies this synergy as the primary driver of competitive advantage, consistent with complementarity-based perspectives (Amit & Han, 2017; Tan et al., 2024). The framework further incorporates moderating and configurational dynamics, with Proposition 3 highlighting scalability as a factor that amplifies the impact of digital resources, and Proposition 5 emphasizing the role of environmental uncertainty in shaping the effectiveness of digital synergy (Brynjolfsson & McAfee, 2014; Marzi, 2022). Proposition 6 extends the model by introducing a configurational perspective, suggesting that different combinations of AI capability, data resources, and cloud infrastructure can produce similar outcomes, an insight aligned with approaches such as fsQCA (Fiss, 2011). The table strengthens the theoretical rigor of the study by illustrating how DRT can be operationalized and empirically examined, providing a foundation for future research, particularly within emerging digital economies.

Role of Environmental Uncertainty

The conceptual model underscores environmental uncertainty as a critical contingency that conditions the effectiveness of digital resource configurations. In contexts characterized by rapid technological change, market volatility, and regulatory shifts, firms face heightened unpredictability that demands agility, responsiveness, and continuous adaptation. Within such environments, the value of digital resource synergy becomes more pronounced, as the integration of AI capability, data resources, and cloud infrastructure enables real-time sensing, rapid decision-making, and adaptive reconfiguration of operations (Teece et al., 1997; Marzi, 2022; Matsunaga, 2024). Recent studies further highlight that digital transformation intensifies uncertainty while simultaneously creating opportunities for firms that can effectively leverage digital resources (Bennich, 2024; Tursunbayeva & Gal, 2024).

From a Digital Resource Theory (DRT) perspective, environmental uncertainty does not merely act as an external constraint but as a value-amplifying condition that enhances the strategic importance of digital resource configurations. Firms with well-developed digital synergy are better equipped to absorb shocks, exploit emerging opportunities, and maintain operational continuity under uncertain conditions. This reinforces the proposition that the relationship between digital resource synergy and competitive advantage is stronger under high levels of uncertainty (P5). This argument is consistent with Dynamic Capability Theory, which posits that firm capabilities are most valuable in turbulent environments (Teece et al., 1997; Helfat et al., 2023). However, DRT extends this logic by emphasizing that it is not merely capabilities, but the configurational integration of digital resources, that drives adaptive advantage in uncertain conditions. Moreover, the increasing complexity and opacity of digital systems introduce additional layers of uncertainty, further

strengthening the role of uncertainty-driven mechanisms in sustaining competitive advantage (Wang & Wang, 2024).

Implications for Theory

This study contributes to strategic management literature by advancing Digital Resource Theory (DRT) as a next-generation framework for understanding competitive advantage in the digital era. It extends the Resource-Based View (RBV) by addressing its core limitations, particularly its static orientation and reliance on resource scarcity, through the incorporation of digital-specific characteristics such as scalability, recombining, and ecosystem embeddedness. While RBV remains foundational in explaining firm performance differences (Barney, 1991; Barney, 2001), recent scholarship emphasizes the need to adapt its logic to digital contexts characterized by rapid technological change and non-rival assets (Helfat et al., 2023; Madhani, 2010). In addition, the study integrates RBV with Dynamic Capability Theory (DCT) and the Digital Resource View (DRV) into a unified framework, where configurational synergy serves as the central mechanism of value creation. This synthesis provides a more comprehensive explanation of how firms generate and sustain competitive advantage in digitally intensive environments (Amit & Han, 2017; Tan et al., 2024).

Furthermore, the study advances a configurational logic of competitive advantage by shifting the focus from individual resources to the interaction and alignment of multiple digital assets. By incorporating mediation (digital resource synergy), moderation (scalability and environmental uncertainty), and configurational effects (joint resource interaction), DRT offers a more nuanced and realistic representation of digital competition. This approach responds to growing calls for non-linear and interaction-based frameworks in strategic management research (Fiss, 2011; Hossain et al., 2025) and reflects the interconnected nature of digital ecosystems (Adner, 2017; Jacobides et al., 2018). As such, DRT is positioned as a forward-looking theoretical framework capable of guiding future research and extending existing theories to better reflect the complexities of the digital economy.

Conclusion

This study advances Digital Resource Theory (DRT) as a configurational extension of the Resource-Based View, providing a framework for understanding how firms achieve competitive advantage in digitally intensive environments. This study integrates RBV, Dynamic Capability Theory, and the Knowledge-Based View to reconceptualize digital resources as scalable, recombining, and ecosystem-embedded assets whose value emerges through synergistic interaction rather than isolated possession. The proposed framework highlights digital resource synergy as a central mechanism of value creation and positions scalability and environmental uncertainty as key boundary conditions shaping competitive outcomes.

Despite these contributions, the study is subject to several limitations. First, the framework and associated propositions are conceptual and have not yet been empirically tested. As such, the relationships articulated in the model require validation using appropriate analytical techniques such as PLS-SEM or fsQCA. Second, the operationalization of key constructs such as digital

resource synergy, recombining, and ecosystem embeddedness may vary across industries and institutional contexts, particularly between developed and emerging economies. This variability may influence the generalizability of the framework and suggests the need for context-sensitive empirical refinement.

In terms of practical implications, the DRT framework provides important insights for managerial decision-making, particularly in emerging economies undergoing rapid digital transformation. Rather than focusing solely on acquiring digital technologies, firms should prioritize the strategic configuration and integration of digital resources, ensuring alignment between data assets, AI capabilities, and scalable infrastructure. Managers should also leverage recombining by continuously reconfiguring digital assets to support innovation and adaptability, while actively engaging in digital ecosystems to enhance value co-creation and network effects. Furthermore, recognizing the role of scalability, firms can design digital strategies that enable rapid expansion and efficient resource deployment across markets.

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