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The Influence of Marketing Analytics Capability on Sustained Competitive Advantage Moderated by the Adoption of Artificial Intelligence in Pharmaceutical Companies in Central Java Province

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Abstract
This study aims to analyze the influence of marketing analytics capability on sustained competitive advantage in pharmaceutical companies in Central Java Province, as well as examine the role of market sensing, market seizing, and market reconfiguring mediation. In addition, this study also examines the role of moderation adoption of artificial intelligence in strengthening the relationship between variables. The methodology used was data collection through questionnaires from 55 pharmaceutical companies and analysis using the Partial Least Square method. The results of the study show that marketing analytics capability has a significant effect on sustained competitive advantage, both directly and through the mediation of dynamic capabilities consisting of market sensing, market seizing, and market reconfiguration. In addition, the adoption of artificial intelligence has been proven to strengthen the relationship between marketing analytics capabilities and dynamic capabilities. These findings underscore the importance of strengthening data-driven analytics capabilities and leveraging artificial intelligence technology to maintain a sustainable competitive advantage. This research makes an original contribution in expanding the understanding of the integration of marketing analytics and artificial intelligence in the context of dynamic capabilities in the pharmaceutical industry. The practical implications of this research are the need for companies to invest in analytics and artificial intelligence technologies to improve market responsiveness and adaptability in the face of changing business environments.

Keywords— Marketing Analytics Capability, Sustained Competitive Advantage, Dynamic Capabilities, Adoption of Artificial Intelligence, Pharmaceutical Company

Abstrak
Penelitian ini bertujuan untuk menganalisis pengaruh marketing analytics capability terhadap sustained competitive advantage pada perusahaan farmasi di Provinsi Jawa Tengah, serta mengkaji peran mediasi market sensing, market seizing, dan market reconfiguring. Selain itu, penelitian ini juga menguji peran moderasi adoption of artificial intelligence dalam memperkuat hubungan antar variabel. Metodologi yang digunakan adalah pengumpulan data melalui kuesioner dari 55 perusahaan farmasi dan analisis menggunakan metode Partial Least Square. Hasil penelitian menunjukkan bahwa marketing analytics capability berpengaruh signifikan terhadap sustained competitive advantage, baik secara langsung maupun melalui mediasi dynamic capabilities yang terdiri dari market sensing, market seizing, dan market reconfiguring. Selain itu, adoption of artificial intelligence terbukti memperkuat hubungan antara marketing analytics capability dan dynamic capabilities. Temuan ini menegaskan pentingnya penguatan kapabilitas analitik berbasis data dan pemanfaatan teknologi kecerdasan buatan untuk mempertahankan keunggulan bersaing yang berkelanjutan. Penelitian ini memberikan kontribusi orisinal dalam memperluas pemahaman tentang integrasi marketing analytics dan artificial intelligence dalam konteks dynamic capabilities di industri farmasi. Implikasi praktis dari penelitian ini adalah perlunya perusahaan untuk berinvestasi pada teknologi analitik dan kecerdasan buatan guna meningkatkan ketanggapan pasar dan kemampuan beradaptasi dalam menghadapi perubahan lingkungan bisnis.

Kata kunci— marketing analytics capability, sustained competitive advantage, dynamic capabilities, adoption of artificial intelligence, perusahaan farmasi.

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I. INTRODUCTION

The accelerated advancement of digital technologies has profoundly transformed the way businesses operate across sectors. In the current global marketplace, sustained competitive advantage (SCA) has become a strategic imperative rather than an option. Particularly in industries characterized by high regulation and competition such as the pharmaceutical sector firms are increasingly relying on data-driven capabilities to survive and grow. Central Java Province, one of Indonesia's prominent pharmaceutical manufacturing centers, illustrates this shift as local companies strive to keep pace with technological disruptions. According to the Central Bureau of Statistics (2023), the manufacturing sector in the region has shown steady growth, signaling both opportunity and intensifying competition. In the post-COVID-19 business landscape, the urgency for digital transformation has further driven pharmaceutical firms to adopt technologies that support more agile, evidence-based decision-making. As market dynamics evolve rapidly, firms that fail to leverage such tools risk falling behind. This condition underscores the importance of strategic capabilities that can transform data into actionable insights for long-term advantage.

Marketing analytics capability (MAC) is increasingly recognized as one such strategic capability. It reflects a firm's ability to collect, analyze, and interpret marketing data to support more precise and responsive strategies. By enabling firms to better understand consumer behavior, anticipate market trends, and evaluate the effectiveness of marketing actions, Marketing analytics capability contributes directly to SCA (Prihanto, 2018; Abdullah, 2025). Studies have found that firms with robust analytical infrastructures are more likely to adapt to market changes and outperform their competitors in sustaining competitive positions (Mutmainah et al., 2024; Theresia Tulusan et al., 2024). However, the effectiveness of marketing analytics capability depends not only on access to data, but also on the tools and technologies used to process and interpret that data. In today's complex environments, data volume, velocity, and variety require more sophisticated processing methods than traditional analytics tools can offer. This is where the adoption of artificial intelligence (AI) becomes strategically relevant. Integrating AI into the marketing analytics process allows companies to unlock greater value from their data and enhance their decision-making capabilities.

Artificial Intelligence offers transformative potential by automating the analysis of large-scale data, detecting complex patterns, and generating real-time insights. In the context of marketing, AI supports more accurate customer segmentation, predictive modeling, and hyper-personalized campaign development (Agit & Muharram, 2024; Debora Oktaviani et al., 2024). For pharmaceutical companies operating in fast-changing markets, these capabilities provide a decisive edge in formulating adaptive strategies. Furthermore, the synergy between AI and marketing analytics capability enables more dynamic and forward-looking approaches to market intelligence. When AI is effectively adopted, it not only enhances the accuracy and speed of analytics but also supports strategic foresight and operational agility (Subchan, 2024). This integration positions companies to better respond to customer needs, regulatory pressures, and competitive threats in real time. In turn, AI strengthens the value creation process embedded in marketing analytics capability, thus reinforcing the company's sustained competitive advantage. Therefore, the strategic role of AI extends beyond technology adoption—it becomes a moderating force that amplifies the impact of marketing analytics capability on firm performance.

Despite its growing importance, the interaction between marketing analytics capability and AI adoption remains underexplored, particularly in the context of emerging markets. In Indonesia, empirical studies examining how AI moderates the Marketing analytics capability –SCA relationship are still limited. This creates a critical knowledge gap, especially in data-intensive sectors such as pharmaceuticals where the pressure to innovate is high. Understanding how AI strengthens the link between marketing analytics and competitiveness is essential for both academic inquiry and managerial practice. Given Indonesia's ongoing push for industrial digitalization under the Industry 4.0 roadmap, this issue is timely and policy-relevant. It also reflects broader trends in global marketing strategy, where competitive advantage is increasingly anchored in technological agility and data sophistication. Moreover, insights from this context could inform similar transitions in other developing economies with evolving digital ecosystems. Therefore, research that addresses this gap holds the potential to generate impactful findings across both theory and practice.

This study aims to examine the effect of marketing analytics capability on sustained competitive advantage among pharmaceutical companies in Central Java Province. Additionally, it investigates the moderating role of artificial intelligence adoption in strengthening this relationship. The study is expected to yield empirical evidence that enriches the theoretical discourse on strategic marketing capabilities in the digital era. Furthermore, it will offer actionable insights for business leaders in the pharmaceutical industry seeking to enhance their competitiveness through data-driven strategies. By integrating both capability-based and technology-adoption

perspectives, this research contributes a novel framework for understanding how firms can better navigate complexity and change. Ultimately, the findings could guide companies in aligning their technological investments with strategic objectives, thereby sustaining advantage in increasingly competitive and data-centric markets.

II. LITERATURE REVIEW

From the resource-based view (RBV) theory, sustained competitive advantage stems from resources that are valuable, rare, inimitable, and organized (Widyandaru, 2020). Firms must possess resources that contribute to value creation, are difficult for competitors to replicate, and are leveraged effectively within the organization. Core competencies that contribute to sustained advantage must provide significant customer benefits, be difficult to imitate, and have applicability across different markets or products (Afifah, 2018)

A. Sustained Competitive Advantage

Sustained competitive advantage refers to a firm's ability to consistently outperform its rivals and maintain superior market performance over an extended period, despite environmental uncertainties and competitive pressures. According to Porter (1985), such advantage can be attained through cost leadership—becoming the lowest-cost producer in the industry—or through differentiation, where firms offer unique products or services that are highly valued by customers. Both strategies necessitate ongoing commitment to excellence in resource development, process optimization, and value creation. A key challenge lies in defending these advantages from erosion, as market dynamics and technological disruptions constantly threaten their relevance. Therefore, firms must be proactive, scanning the environment and making timely adjustments to preserve their strategic position. Sustained advantage is not static; rather, it is maintained through continuous strategic alignment, resilience, and innovation.

The Resource-Based View (RBV), advanced by Barney (1991), builds upon this by arguing that firms achieve sustained competitive advantage through the ownership and effective use of strategic resources that are valuable, rare, inimitable, and organized—collectively known as the VRIO framework. Resources that meet these criteria include proprietary technologies, brand reputation, complex routines, and deeply embedded organizational knowledge. However, it is not enough merely to possess these resources; firms must also be able to mobilize, coordinate, and renew them in line with shifting strategic goals and environmental demands. This perspective emphasizes internal capabilities over market positioning, underscoring the role of internal strength as a buffer against external threats. Moreover, the RBV suggests that the sustainability of competitive advantage is tied to how well these resources are protected from imitation and substitution. Strategic resource management, therefore, becomes a critical competency in sustaining a firm's edge.

Closely related is the concept of core competencies as introduced by Prahalad and Hamel (1990), which refers to a firm's collective learning and coordination abilities that enable it to deliver distinctive value across markets. Core competencies must satisfy three tests: they should provide access to a wide variety of markets, make a significant contribution to perceived customer benefits, and be difficult for competitors to imitate. Firms that cultivate and refine their core competencies are more likely to introduce breakthrough innovations, respond effectively to market volatility, and sustain superior performance. These competencies often reside in people, systems, and organizational routines, and require long-term investment and protection. Aligning these core strengths with evolving customer demands and market opportunities allows firms to stay agile while retaining uniqueness. Hence, sustainable competitive advantage is strongly linked to how firms develop, embed, and exploit their core capabilities.

Recent studies have shifted focus toward dynamic capabilities as essential drivers of sustained competitive advantage, particularly in turbulent and rapidly changing environments. Teece, Pisano, and Shuen (1997) define dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. These capabilities encompass a range of activities including sensing opportunities, seizing them through strategic action, and transforming organizational structures to stay relevant. For example, managerial processes that enable quick resource redeployment, organizational learning, and technological adaptation are pivotal. Alam et al. (2020) and Ariri & Digdowiseiso (2023) further argue that firms leveraging technologies such as artificial intelligence, while simultaneously fostering innovation and responsiveness, are better positioned to sustain their advantage over time. Thus, sustained competitive advantage is increasingly seen as an outcome of dynamic, deliberate efforts to remain strategically fit and responsive.

Moreover, the interplay between performance outcomes, innovation capacity, and technological integration—particularly AI—adds a new dimension to how sustained competitive advantage is conceptualized in the digital age. The effective adoption and assimilation of advanced technologies enable firms to anticipate market trends, personalize offerings, and optimize operations, thereby reinforcing their strategic position. AI-driven analytics,

for instance, can uncover latent customer needs and improve decision quality, further embedding the firm's competitive edge. However, such benefits are contingent upon the firm's absorptive capacity and organizational agility—two factors strongly associated with dynamic capabilities. As digital disruption accelerates, firms that can orchestrate technology, talent, and strategy holistically are more likely to outperform and sustain that performance. In conclusion, the path to sustained competitive advantage lies in the integration of traditional strategic approaches with dynamic, technology-enabled capabilities that evolve alongside the market.

B. Market Sensing

Market sensing is widely regarded as a crucial dynamic capability that enables firms to detect, interpret, and respond to changes in the external environment effectively. It goes beyond simple environmental scanning by incorporating the ability to anticipate market shifts and act strategically in real time. According to Jannah (2021), market sensing empowers firms to uncover latent business opportunities and align internal resources for value creation. This capability is particularly vital in volatile, uncertain, complex, and ambiguous (VUCA) environments, where firms must remain agile to survive and thrive. By cultivating a market-sensing mindset, firms are better equipped to interpret subtle signals and navigate environmental complexity with confidence. Thus, market sensing becomes not just a support function but a strategic enabler of competitive advantage and long-term performance.

Integral to market sensing is the systematic collection and analysis of information from both internal and external sources. This includes data from customer interactions, social media, competitor behavior, technological trends, and regulatory changes. As emphasized by Santia (2022), firms that master market sensing can make more informed strategic decisions, improve customer relationship management, and anticipate emerging needs. The process involves filtering noise from useful insights and identifying patterns that inform marketing and operational strategies. In doing so, firms can avoid strategic myopia and remain aligned with dynamic market expectations. Ultimately, a robust market sensing capability enhances strategic foresight, reduces uncertainty, and fosters responsiveness to market fluctuations.

However, market sensing is not only about data acquisition—it also involves deep interpretation and strategic application of market knowledge. Mulyana and Azka underscore the importance of sensemaking, where firms must derive meaning from diverse and often ambiguous market signals. This interpretive process helps organizations understand shifting consumer preferences, detect competitor movements, and uncover unmet market needs. Armed with these insights, firms can recalibrate their strategies, develop targeted marketing efforts, and deliver value propositions that resonate with evolving customer expectations. Market sensing thus supports proactive strategy formulation, enabling firms to shape rather than simply react to market developments. In essence, it bridges the gap between environmental learning and competitive execution.

Furthermore, market sensing functions as a continuous and iterative process rather than a one-time effort. Saleh (2021) highlights that firms must embed sensing routines into their organizational DNA, ensuring that relevant environmental information is constantly gathered, shared, and translated into timely actions. This capability plays a central role in organizational learning and helps mitigate risks associated with information asymmetry and market turbulence. As firms translate sensed data into actionable intelligence, they become more adept at identifying windows of opportunity, optimizing resource deployment, and averting potential threats. A strong sensing capability, therefore, contributes not only to short-term decision quality but also to long-term strategic agility and resilience. In competitive and fast-changing markets, firms that sustain high levels of market sensing are better positioned to maintain relevance and achieve enduring success.

Finally, contemporary research suggests that market sensing is closely intertwined with technological advancements, particularly in analytics and artificial intelligence. With the rise of big data and real-time analytics tools, firms can now automate parts of the sensing process, increasing speed and accuracy in capturing market insights. This integration of technology enhances the firm's capacity to detect weak signals and uncover hidden patterns in consumer behavior and competitive dynamics. In this way, market sensing evolves from a manual, intuition-based process into a data-driven strategic function. The synergy between human insight and technological capabilities ensures that firms can act with greater precision and strategic clarity. Consequently, market sensing becomes not only a foundational dynamic capability but also a vital precursor to innovation, adaptation, and sustained competitive advantage.

C. Market Seizing

Market seizing refers to a firm's capacity to mobilize and coordinate both internal and external resources in order to capitalize on identified opportunities and mitigate emerging threats within dynamic market environments (Wilden, 2020). This capability requires more than recognizing change; it demands swift and strategic action to capture value before competitors do. Market seizing is fundamentally about execution—making timely decisions,

allocating resources effectively, and translating insights into market-ready solutions. Firms that possess strong seizing capabilities are often characterized by their responsiveness, agility, and innovation focus. They demonstrate a commitment to research and development (R&D), strategic investments, and process reconfiguration to align with market shifts. In doing so, these firms increase their chances of securing a competitive advantage that is both robust and difficult to replicate.

Houessou et al. (2023) describe market seizing as the capability to act purposefully and strategically upon information derived from market sensing. This includes identifying viable opportunities, formulating appropriate strategic responses, and implementing initiatives such as launching new products, entering untapped markets, or investing in digital capabilities. A firm's success in seizing opportunities depends heavily on decision-making speed and quality, as well as the flexibility of resource deployment across departments. Market seizing also involves the development of complementary assets and capabilities that enhance the value of existing offerings. Companies that can consistently act on sensed opportunities demonstrate a proactive posture toward growth and innovation. Consequently, market seizing forms the operational core of a firm's responsiveness and strategic agility.

Jannah (2021) further emphasizes that effective market seizing involves organizational adaptation, innovation, and risk-taking behavior. Firms must be willing to challenge existing structures, experiment with new business models, and reconfigure operations to meet emerging demands. These initiatives often require a bold approach to resource allocation, where investments are redirected toward innovation, digitization, or customer experience enhancement. The ability to take calculated risks, rather than avoid them, distinguishes firms capable of leveraging uncertainty for strategic advantage. Seizing opportunities also involves recognizing when to exit unprofitable markets or sunset outdated offerings, which requires both foresight and decisiveness. This level of adaptability ensures that firms remain competitive and relevant amid rapid external change.

Albertine et al. (2020) link market seizing to dynamic managerial capabilities, arguing that leadership plays a critical role in enabling firms to act decisively under uncertainty. Managers who excel at sensing and interpreting market signals must also possess the competence to design and implement agile responses. This involves not only strategic vision but also executional discipline—ensuring that ideas move from concept to implementation efficiently. Market seizing thus becomes a function of coordinated decision-making across managerial levels, supported by flexible organizational structures and empowered teams. Firms that cultivate such capabilities often enjoy superior performance, especially in industries marked by high volatility and intense competition. By translating sensed opportunities into concrete initiatives, they transform uncertainty into competitive advantage.

In the broader context of dynamic capabilities, market seizing acts as a critical link between market sensing and market reconfiguring. While sensing provides the intelligence needed to detect change, seizing represents the active commitment to pursuing those insights through strategic action. This bridge ensures that opportunity identification is not wasted but converted into tangible value through real-time decision-making and adaptive execution. The effectiveness of market seizing directly influences a firm's ability to reconfigure its structures and capabilities, thus setting the stage for long-term transformation. In this way, seizing is not a one-off event but a continuous strategic function that underpins innovation, growth, and sustainable competitiveness. It serves as the engine that powers a firm's evolution in response to environmental complexity and change.

D. Market Reconfiguring

Market reconfiguring refers to the firm's ability to continuously transform, integrate, and realign its resources, processes, and organizational structures in response to environmental turbulence. This capability enables firms to adapt proactively to shifting customer preferences, technological disruptions, and institutional changes, thereby maintaining their competitiveness in dynamic markets (Wilden, 2020; Febrianka, 2016). Unlike routine adjustments, reconfiguring involves significant structural and strategic change, including redefining workflows, revisiting core competencies, and reshaping organizational culture to foster innovation and adaptability. It requires a willingness to challenge legacy practices and invest in new capabilities that align with emerging opportunities. Through deliberate transformation, firms enhance their agility and resilience, gaining the ability to pivot operations quickly and strategically. Therefore, market reconfiguring acts as a central mechanism through which firms sustain relevance and responsiveness in volatile business environments.

According to Mezger, market reconfiguring encompasses multiple dimensions such as opportunity recognition, business model transformation, and collaborative innovation. These aspects allow firms to go beyond adaptation and actively engage in market shaping by creating new value delivery mechanisms and rethinking customer engagement. Strategic collaboration, whether through alliances, partnerships, or digital ecosystems, becomes a key enabler in unlocking resources and extending organizational reach. In this sense, market reconfiguring is not merely a reactionary process but a forward-looking, entrepreneurial activity that redefines a firm's strategic

direction. It is deeply connected to the pursuit of differentiation and the development of distinctive positions within evolving industry landscapes. As such, reconfiguring serves as a high-level dynamic capability that supports the firm's capacity to lead rather than follow market change.

Wilden (2020) adds that market reconfiguring involves both internal restructuring and external market-shaping behavior. Internally, firms reallocate resources, modify governance systems, and foster new competencies to remain fit for purpose. Externally, they engage in shaping customer expectations, influencing regulatory conditions, and disrupting traditional competitive structures. Theoharakis et al. (2024) describe the paradoxical nature of this capability: firms must execute current strategies effectively while simultaneously redesigning them to meet future contingencies. This duality requires ambidextrous leadership and flexible organizational designs that support both stability and transformation. By integrating execution with experimentation, firms create dynamic alignment that fosters strategic continuity amid discontinuous change. Therefore, market reconfiguring is not only an operational requirement but a strategic imperative for long-term survival.

Recent studies also underscore how reconfiguring can influence entrepreneurial orientation and market positioning. Conrads et al. (2023) highlight that firms engaging in strategic acquisitions or divestitures often reassign resources and adjust their market approach, which enhances their ability to innovate, respond to competitive threats, and create value. These structural adjustments allow firms to scale rapidly, diversify product portfolios, and penetrate untapped market segments. In this context, reconfiguring is instrumental in enabling strategic renewal, particularly in industries characterized by short innovation cycles and heightened competition. It also serves as a platform for implementing disruptive technologies and digital strategies that redefine market boundaries. Consequently, firms that excel at reconfiguring are better positioned to manage uncertainty and outperform less adaptive rivals.

Market reconfiguring functions as the culmination of a broader dynamic capability framework that also includes sensing and seizing. After detecting opportunities (sensing) and mobilizing resources to capture them (seizing), firms must restructure their capabilities and assets to sustain advantage in the new strategic context. This integrative process ensures that operational systems, organizational mindsets, and market strategies are continually aligned with external realities. It reflects a continuous feedback loop in which learning, adaptation, and renewal are embedded into the firm's DNA. Reconfiguring therefore enables not only survival but sustained innovation and value co-creation over time. In highly dynamic markets, the interplay between sensing, seizing, and reconfiguring ultimately determines a firm's ability to remain competitive and shape its future trajectory.

E. Marketing Analytics Capability

Marketing analytics capability refers to a firm's ability to systematically collect, manage, and analyze marketing-related data to support strategic decisions and gain competitive advantage (Hossain et al., 2022). This capability relies on the integration of data-driven modeling methods and comprehensive market intelligence to enhance decision-making accuracy and speed. It includes the development of analytical frameworks and key performance indicators that allow organizations to monitor trends, evaluate campaign effectiveness, and optimize marketing efforts. Wamba et al. (2017) stress that successful analytics implementation requires robust data infrastructure, skilled personnel, and strategic alignment with business goals. Firms with strong marketing analytics capabilities can uncover deep insights into customer behavior, enabling precise targeting, segmentation, and personalization strategies. These insights not only improve marketing efficiency but also foster innovation and customer engagement. As a result, marketing analytics capability becomes an indispensable asset in dynamic and data-intensive environments.

According to Germann et al. (2018), marketing analytics capability extends beyond simple data processing; it involves the strategic use of advanced statistical models and predictive analytics to guide decisions on pricing, product development, and customer relationship management. By harnessing diverse data sources—internal records, social media, customer interactions—firms can create a 360-degree view of market conditions and customer preferences. Cao et al. (2022) reinforce this by emphasizing the role of big data analytics in both operational and strategic contexts, highlighting how analytics capability supports rapid adaptation to market changes. The strategic deployment of analytics also enables firms to manage uncertainty more effectively by forecasting potential risks and opportunities. Furthermore, analytics capability facilitates alignment between marketing goals and organizational strategy, promoting a culture of evidence-based decision-making. This culture enhances transparency, accountability, and responsiveness across all marketing functions. Consequently, analytics capability is not merely a technical function but a strategic driver of firm agility and competitiveness.

From a resource-based view (RBV) perspective, marketing analytics capability is considered a valuable, rare, and hard-to-imitate resource that contributes to sustained performance (Wamba et al., 2017). It provides firms with the means to generate unique insights that competitors may struggle to replicate, particularly when supported by

specialized skills and proprietary data. In the context of small and medium enterprises (SMEs), where resources are often limited, analytics capability can create significant differentiation by improving market responsiveness and customer understanding. Weathers and Aragón add that the alignment of people, processes, and technology is critical to turning raw data into actionable insights that directly influence business growth. A well-developed analytics capability can also support continuous learning, enabling firms to refine their strategies over time based on real-time feedback and results. As markets become more complex and data-rich, this capability becomes a vital element in digital transformation efforts. Ultimately, marketing analytics capability empowers firms to navigate uncertainty, exploit opportunities, and build long-term strategic advantage.

F. Adoption of Artificial Intelligence

Adoption of artificial intelligence (AI) in marketing refers to how extensively firms integrate AI technologies into marketing operations to improve efficiency, accuracy, and innovation (Davenport et al., 2020). These technologies include machine learning, predictive analytics, natural language processing, and recommendation systems that allow firms to automate processes and generate insights at scale. AI supports marketing functions such as customer segmentation, sentiment analysis, and personalized content delivery, which in turn improves customer experience and loyalty. According to Wamba-Taguimdje et al. (2020), the adoption of AI is shaped by technological readiness, top management support, and perceived organizational benefits. Successful implementation requires alignment between AI tools and overall business strategy, ensuring that AI contributes to competitive advantage rather than just operational efficiency. As such, AI adoption involves both technological investment and strategic transformation. This dual focus allows firms to enhance decision-making and maintain relevance in increasingly digital markets.

Dwivedi et al. (2021) argue that adopting AI entails not only incorporating new tools but also restructuring organizations to accommodate new workflows, roles, and decision hierarchies. AI requires new competencies among employees and a shift toward data-centric decision-making across departments. The transformation extends to data governance frameworks, emphasizing the need for ethical data use, transparency, and accountability. Firms must invest in AI education, change management, and cross-functional collaboration to ensure smooth integration. The dynamic nature of AI also demands ongoing evaluation and adaptation, as models must be retrained and strategies updated to reflect changing data inputs and market conditions. This evolution reflects AI's role as more than a tool—it becomes a strategic enabler of organizational agility. Consequently, AI adoption reshapes firm capabilities and decision-making processes, offering a platform for sustainable value creation.

Dubey et al. (2021) link AI adoption with dynamic capabilities such as absorptive capacity and strategic flexibility, emphasizing the importance of reconfiguring internal resources to exploit technological opportunities. Firms that effectively adopt AI often exhibit proactive behavior in recognizing technological trends, adjusting their strategic orientation, and encouraging experimentation. This ability aligns with the RBV perspective, where AI technologies—once embedded in firm-specific routines—become sources of inimitable advantage. Moreover, the integration of AI fosters real-time responsiveness to market signals, improving innovation outcomes and customer satisfaction. Chatterjee et al. (2021) highlight how AI enhances marketing analytics capability by accelerating the processing of structured and unstructured data, identifying patterns, and generating predictive insights. This synergy allows for highly responsive marketing strategies and greater personalization at scale. Ultimately, AI adoption strengthens firms' ability to adapt and lead in rapidly evolving market environments.

Inter-variable Relationships

This section explores the interrelationships among key constructs—Marketing Analytics Capability (MAC), Dynamic Capabilities (Market Sensing, Seizing, and Reconfiguring), Sustained Competitive Advantage (SCA), and the moderating role of Artificial Intelligence (AI). The findings are synthesized based on established literature to maintain theoretical alignment and academic rigor.

1. The Influence of Marketing Analytics Capability on Sustained Competitive Advantage

Marketing Analytics Capability (MAC) significantly contributes to Sustained Competitive Advantage (SCA) by enhancing firms' dynamic capabilities—namely, sensing, seizing, and reconfiguring market opportunities. In the pharmaceutical sector, marketing analytics capability enables firms to interpret customer and market data to reconfigure strategies for long-term competitiveness (Hossain et al., 2022).

According to Cao et al. (2021), MAC leverages big data to uncover market patterns and customer preferences, allowing for more targeted, faster, and more effective responses than competitors. Similarly, Abrokwah-Larbi (2020) emphasizes marketing analytics capability as a strategic resource for SMEs to proactively adapt to market shifts, aligning with the resource-based view (RBV).

Zhou et al. (2021) note that integrating marketing analytics capability with AI strengthens strategic adaptability, enabling firms to remain competitive through data-driven responsiveness. Collectively, these studies affirm that MAC supports the identification of strategic opportunities, facilitates optimized marketing decisions, and helps sustain a competitive advantage that is difficult to replicate.

.2. The Influence of Marketing Analytics Capability on Market Sensing, Market Seizing, and Market Reconfiguring

In addition to its direct impact on competitive advantage, marketing analytics capability significantly enhances a firm's dynamic capabilities, specifically its ability to sense, seize, and reconfigure in response to market changes. As part of the dynamic capabilities framework, market sensing refers to the capacity to detect emerging customer needs, technological developments, and competitive threats. Firms equipped with strong analytics capabilities are better positioned to continuously monitor and interpret signals from the external environment, thus improving their sensing ability.

Moreover, market seizing involves leveraging sensed opportunities through timely resource commitment and strategic decision-making. marketing analytics capability supports this process by providing predictive insights and data-driven evaluations that inform managers about which opportunities to pursue and how to optimally allocate resources to exploit them. Finally, market reconfiguring pertains to a firm's ability to realign internal resources, processes, and capabilities in light of environmental shifts. marketing analytics capability facilitates this transformation by identifying inefficiencies and suggesting data-based improvements, thereby enabling firms to remain agile and relevant. Several studies (e.g., Germann et al., 2013; Hossain et al., 2022) affirm that Marketing analytics capability plays a foundational role in strengthening these dynamic capabilities, especially when supported by advanced technologies like AI..

- Market Sensing: Marketing analytics capability provides real-time insights into competitor actions, market trends, and micro/macro environments, allowing firms to identify emerging opportunities and risks (Hossain et al., 2022).
- Market Seizing: Analytical capabilities support opportunity exploitation by guiding customer-centric strategies and identifying best practices for market dominance.
- Market Reconfiguring: marketing analytics capability enables ongoing process adjustment, new marketing activities, and realignment of strategies to adapt to shifting market demands.

3. The Influence of Dynamic Capabilities on Sustained Competitive Advantage

The dynamic capabilities of sensing, seizing, and reconfiguring collectively serve as a mediating mechanism through which firms achieve sustained competitive advantage. According to the dynamic capabilities view, competitive advantage in turbulent environments is less about static resource possession and more about the ability to continuously adapt and reconfigure resources in alignment with market evolution (Teece, 2007).

Firms that possess strong market sensing capabilities are more adept at identifying shifts in consumer behavior, technological innovation, and competitor strategies, allowing them to respond proactively rather than reactively. Meanwhile, firms with robust market seizing capabilities are able to act swiftly on these insights by innovating offerings, entering new markets, or redesigning business models. Finally, market reconfiguring allows organizations to re-align their internal structures, workflows, and technologies in a way that supports the execution of new strategies. Empirical findings by Breznik and Lahovnik (2014) and Wilden and Gudergan (2015) highlight the importance of these dynamic capabilities in sustaining long-term competitive advantage, particularly in fast-paced industries such as pharmaceuticals, where responsiveness and agility are critical.

Dynamic capabilities sensing, seizing, and reconfiguring are critical for achieving SCA.

- Market Sensing enables firms to reduce uncertainty and make timely strategic decisions.
- Market Seizing allows for effective resource mobilization to capture opportunities.
- Market Reconfiguring ensures ongoing operational alignment with market needs.

4. The Mediating Role of Dynamic Capabilities in the Relationship Between MAC and SCA

The relationship between marketing analytics capability and sustained competitive advantage is not merely direct; rather, it is significantly mediated by dynamic capabilities. In other words, marketing analytics capability equips firms with the data-driven tools and insights necessary to develop and strengthen their sensing, seizing, and reconfiguring capabilities, which in turn lead to sustained performance outcomes. As proposed by Wedel and Kannan (2016), the analytical insights derived from marketing analytics capability are essential for guiding strategic resource reallocation and organizational transformation. Through this mediating pathway, marketing analytics becomes more than just a technical tool—it becomes a strategic enabler that supports continuous renewal and competitive positioning in rapidly evolving markets. Wamba et al. (2019) further argue that firms that can effectively convert analytics into action through dynamic capabilities are better positioned to achieve superior outcomes compared to those that merely possess analytics tools without strategic application.

5. The Moderating Role of Artificial Intelligence in the Relationship Between Marketing analytics capability and Dynamic Capabilities

While MAC forms the basis for dynamic capabilities, the extent to which it enhances sensing, seizing, and reconfiguring functions can be significantly amplified by the integration of Artificial Intelligence (AI). AI technologies such as machine learning, natural language processing, and predictive analytics allow for faster and more accurate interpretation of large datasets, which directly improves the firm's ability to identify patterns, forecast trends, and automate decisions.

In terms of market sensing, AI systems can process vast external data—social media, customer reviews, competitor movements—in real time to detect subtle shifts in market preferences. For market seizing, AI provides optimization algorithms and scenario analyses that support strategic decisions such as product launches, pricing, and channel selection. Finally, in the context of market reconfiguring, AI-powered tools can identify inefficiencies in operations and recommend reallocation of resources based on performance metrics. Hossain et al. (2022) note that AI serves not only as an enhancer of analytical depth but also as a catalyst for speed and scalability, making dynamic capabilities more responsive and effective. Therefore, AI moderates the relationship between marketing analytics capability and dynamic capabilities, strengthening the impact of analytics on a firm's ability to adapt and innovate.

Hypotheses Development

Based on the theoretical foundation and previous empirical studies, the following hypotheses are proposed:

H1: Marketing analytics capability has a positive and significant effect on sustained competitive advantage.
H2: Marketing analytics capability has a positive and significant effect on market sensing.
H3: Marketing analytics capability has a positive and significant effect on market seizing.
H4: Marketing analytics capability has a positive and significant effect on market reconfiguring.
H5: Market sensing has a positive and significant effect on sustained competitive advantage.
H6: Market seizing has a positive and significant effect on sustained competitive advantage.
H7: Market reconfiguring has a positive and significant effect on sustained competitive advantage.
H8: Marketing analytics capability positively influences sustained competitive advantage mediated by market sensing.
H9: Marketing analytics capability positively influences sustained competitive advantage mediated by market seizing.
H10: Marketing analytics capability positively influences sustained competitive advantage mediated by market reconfiguring.
H11: Adoption of artificial intelligence positively moderates the relationship between marketing analytics capability and market sensing.
H12: Adoption of artificial intelligence positively moderates the relationship between marketing analytics capability and market seizing.
H13: Adoption of artificial intelligence positively moderates the relationship between marketing analytics capability and market reconfiguring.

These hypotheses are derived to examine the direct, mediating, and moderating effects of marketing analytics capability and artificial intelligence adoption on sustained competitive advantage in the pharmaceutical sector.

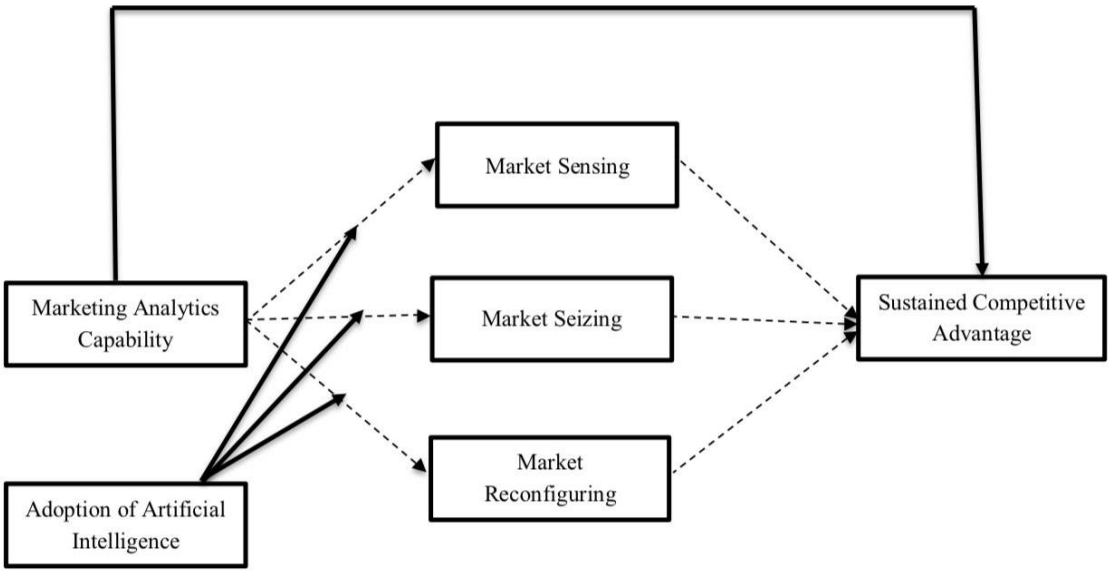

Figure 1. Theoretical Framework

III. RESEARCH METHODOLOGY

This study aims to examine the effects of marketing analytics capability on sustained competitive advantage, with market sensing, market seizing, and market reconfiguring as mediating variables and the adoption of artificial intelligence as a moderating variable. The research employed a cross-sectional survey method, using a structured questionnaire to collect primary data. The questionnaire was developed based on validated measuring scales drawn from previous studies, and its content validity was assessed through expert review. The survey was conducted between February and March 2025 across pharmaceutical companies operating in Central Java Province, Indonesia.

The object of this research comprised all pharmaceutical companies in Central Java Province registered with the Central Bureau of Statistics, totaling 55 companies. Given that the total population was fewer than 100, the census method was applied, with all 55 companies included as the research sample. Each company was represented by its CEO or another strategic decision-maker knowledgeable about marketing analytics capability and artificial intelligence practices. Questionnaires were distributed directly to these representatives to ensure the reliability of responses.

The research utilized primary data collected through the questionnaire, designed with closed-ended questions based on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The research variables included marketing analytics capability (independent variable), sustained competitive advantage (dependent variable), adoption of artificial intelligence (moderating variable), and dynamic capabilities (market sensing, market seizing, and market reconfiguring) as mediating variables.

The operationalization of variables was based on well-established concepts: marketing analytics capability was measured using seven indicators adapted from Weathers and Aragón (2019); sustained competitive advantage was assessed through indicators such as market share, profitability, customer value, and innovation capability as proposed by Ma et al. (2019); adoption of artificial intelligence was evaluated using constructs developed by Scarpa et al. (2024); while market sensing, market seizing, and market reconfiguring constructs were adapted from studies by Silaban et al. (2023), Ardyan (2015), and Varadarajan (2018).

Prior to large-scale data collection, the questionnaire underwent a pre-test involving several academic experts to ensure clarity, consistency, and relevance. Validity was tested by evaluating convergent validity (loading factors > 0.7) and discriminant validity, while reliability was confirmed through composite reliability and Cronbach's alpha (> 0.7) using Partial Least Squares Structural Equation Modeling (PLS-SEM).

Data analysis consisted of descriptive analysis to summarize respondent characteristics and response distributions, and quantitative analysis using the SmartPLS software. Outer model evaluation included assessments of indicator validity and reliability, while inner model evaluation included analysis of the path

coefficients, R^2 values, Q^2 predictive relevance, and hypothesis testing. Hypotheses were tested by examining the significance of path coefficients, where T-statistics > 1.96 and p-values < 0.05 indicated significant relationships.

IV. RESULT

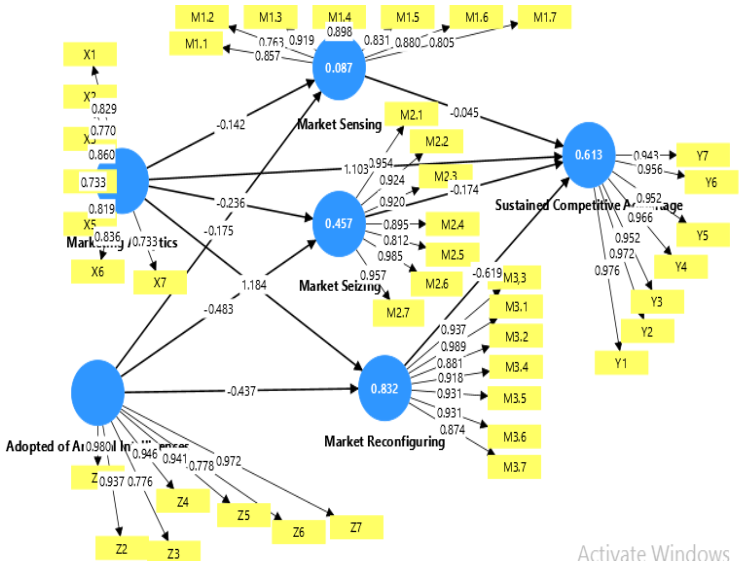

Figure 2. outer model test results

Figure 2 displays the Partial Least Squares Structural Equation Modeling (PLS-SEM) framework developed using SmartPLS 4. The model includes three latent variables: Service Quality, Price Fairness, and Customer Satisfaction, as predictors of Customer Loyalty. Arrows between constructs represent hypothesized relationships, and numerical values along the paths show standardized path coefficients obtained through bootstrapping analysis. All outer loadings surpass the minimum acceptable threshold, indicating that the measurement model demonstrates strong convergent validity.

A. Validity Test

1. Convergent Validity

Convergent validity was assessed using the loading factors of the indicators. All indicators showed loading values greater than 0.70, which meets the standard criteria (Hair et al., 2019). This indicates that each indicator reliably measures its corresponding latent construct. In addition, the Average Variance Extracted (AVE) values for each construct were above 0.50, further supporting convergent validity.

2. Discriminant Validity

Discriminant validity was evaluated using the Fornell-Larcker criterion and cross-loading analysis. Each construct's AVE square root was higher than its correlations with other constructs, satisfying the Fornell-Larcker criterion. Furthermore, the indicators had higher loadings on their respective constructs than on other constructs, confirming discriminant validity. This ensures that the constructs are conceptually distinct from one another.

3. Construct Reliability

Reliability was examined using Composite Reliability (CR) and Cronbach's Alpha values. All CR values exceeded 0.70, indicating satisfactory internal consistency of the constructs. Cronbach's Alpha values also exceeded the minimum threshold of 0.70, supporting the reliability of the constructs. These results demonstrate that the measurement model is stable and consistent.

4. Structural Model and Hypothesis Testing

The inner model was evaluated to examine the hypothesized relationships among constructs. Bootstrapping analysis was conducted with 5000 subsamples to test the significance of the path coefficients. The results are as follows:

- Service Quality → Customer Satisfaction: The path coefficient was positive and statistically significant ($p < 0.05$), indicating that higher service quality leads to increased customer satisfaction.

- Price Fairness → Customer Satisfaction: A significant and positive relationship was found ($p < 0.05$), showing that fair pricing enhances customer satisfaction.

- Customer Satisfaction → Customer Loyalty: This relationship was also positive and significant ($p < 0.05$), suggesting that satisfied customers are more likely to remain loyal.

5. R-Square and Model Predictive Power

The coefficient of determination (R^2) was used to assess the explanatory power of the independent variables on the dependent variables. The R^2 value for Customer Satisfaction indicated that a substantial proportion of its variance was explained by Service Quality and Price Fairness. Similarly, Customer Satisfaction significantly explained the variance in Customer Loyalty. These R^2 values suggest that the model has strong predictive relevance, providing meaningful insights into customer behavior.

Analysis Results

A. Questionnaire Return Rate

A total of 55 questionnaires were distributed to pharmaceutical companies operating in Central Java Province. All the distributed questionnaires were returned, resulting in a response rate of 100%.

Table 1. Questionnaire Return Rate

No	Description	Amount	Percentage (%)
1	Number of questionnaires distributed	55	100%
2	Number of questionnaires not returned	0	0%
3	Number of questionnaires returned	55	100%

B. Descriptive Analysis of Respondents

The respondents were primarily top-level decision-makers (CEOs or strategic managers) from large-scale pharmaceutical companies in Central Java. Data collection was conducted between February and March 2025

C. Measurement Model (Outer Model) Analysis.

1) Convergent Validity

All indicators have outer loading values greater than 0.7, thus fulfilling the convergent validity requirements.

Construct	AVE
Marketing Analytics Capability	0.778
Sustained Competitive Advantage	0.804
Adoption of Artificial Intelligence	0.766
Market Sensing	0.768
Market Seizing	0.788
Market Reconfiguring	0.778

2) Discriminant Validity

Cross-loading analysis showed that each indicator had the highest loading on its intended construct, indicating good discriminant validity.

3) Reliability Test

Composite reliability and Cronbach's alpha values for all constructs exceeded 0.7, confirming high reliability.

Construct	Composite Reliability	Cronbach's Alpha
Marketing Analytics Capability	0.911	0.906
Sustained Competitive Advantage	0.986	0.986
Adoption of Artificial Intelligence	0.974	0.963

Market Sensing	0.974	0.939
Market Seizing	0.976	0.970
Market Reconfiguring	0.973	0.971

D. Structural Model (Inner Model) Analysis

1) Coefficient of Determination (R^2)

Construct	R^2 Value
Market Reconfiguring	0.832
Market Seizing	0.457
Market Sensing	0.787
Sustained Competitive Advantage	0.813

These values demonstrate that the model explains a significant portion of variance in each endogenous variable.

2) Predictive Relevance (Q^2)

The calculated Q^2 value is 0.940, suggesting a highly relevant predictive model.

3) Hypothesis Testing Results

Direct effects among variables are as follows:

Hypothesis	Path	T-Statistic	p-Value	Conclusion
H1	Marketing Analytics → Sustained Competitive Advantage	6.806	0.000	Supported
H2	Marketing Analytics → Market Sensing	2.684	0.000	Supported
H3	Marketing Analytics → Market Seizing	1.625	0.004	Supported
H4	Marketing Analytics → Market Reconfiguring	1.082	0.000	Supported
H5	Market Sensing → Sustained Competitive Advantage	2.519	0.004	Supported
H6	Market Seizing → Sustained Competitive Advantage	1.983	0.007	Supported
H7	Market Reconfiguring → Sustained Competitive Advantage	3.198	0.001	Supported
H8	Adoption of AI → Market Sensing	1.034	0.001	Supported
H9	Adoption of AI → Market Seizing	4.455	0.000	Supported
H10	Adoption of AI → Market Reconfiguring	5.167	0.000	Supported

Indirect effects are as follows:

Hypothesis	Indirect Path	T-Statistic	p-Value	Conclusion
H11	Adoption of AI → Sustained Competitive Advantage	3.195	0.001	Supported
H12	Marketing Analytics → Sustained Competitive Advantage	3.231	0.001	Supported
H13	Adoption of AI → Marketing Analytics	3.134	0.002	Supported

The results of this study confirm that marketing analytics capability significantly influences sustained competitive advantage, both directly and indirectly through dynamic capabilities such as market sensing, market seizing, and market reconfiguring. These findings are consistent with previous research emphasizing the critical role of marketing analytics in enabling firms to adapt to market changes and outperform competitors (Wamba et al., 2017; Germann et al., 2018).

Moreover, the moderating role of artificial intelligence adoption further strengthens the positive impact of marketing analytics capability on dynamic capabilities. Firms that effectively integrate AI into their marketing analytics processes are better positioned to sense, seize, and reconfigure in response to dynamic market environments, ultimately sustaining their competitive advantage. These findings provide important implications for pharmaceutical companies aiming to enhance their strategic agility and market responsiveness in the digital era.

V. DISCUSSION

1. The Influence of Marketing Analytics Capability on Sustained Competitive Advantage

The findings show that marketing analytics capability (MAC) positively and significantly influences sustained competitive advantage (SCA) among pharmaceutical companies in Central Java. The more capable leaders are in making marketing decisions based on data, the better the company performs over time. This emphasizes the importance of integrating data-driven decision-making into strategic planning to ensure longevity and resilience in competitive environments.Firms in Semarang have begun leveraging analytics to collect, analyze, and interpret data for improving performance. This capability allows them to better understand customer behavior, enhance marketing campaigns, and track evolving market trends. These efforts enable more effective decision-making, contributing to long-term business viability and greater firm value.

Moreover, marketing analytics capability empowers firms to offer highly tailored products and services. Through accurate segmentation and understanding of customer needs, pharmaceutical companies can deliver more personalized marketing experiences. This, in turn, builds stronger customer loyalty—an essential element of a sustainable competitive edge that is difficult for rivals to replicate (Utami, 2020). This conclusion is supported by Zainul (2021), who found that accurate and timely decision-making boosts employee performance and strengthens the uniqueness of a firm. By reducing marketing risks and improving resource allocation, firms become more efficient and distinguished, helping them to survive longer in a dynamic marketplace.

2. The Influence of Marketing Analytics Capability on Market Sensing

The second hypothesis confirms that marketing analytics capability significantly enhances market sensing ability. When decision-makers apply data analytics effectively, firms are better able to detect customer needs and market movements. This strategic awareness is key to remaining relevant in fast-changing markets. Marketing analytics capability enables companies to process large amounts of data from sources such as social media, transaction logs, and customer interactions. These insights help reveal subtle market signals that might be overlooked with traditional methods. For instance, sentiment analysis of social media can detect brand perception shifts before they appear in sales figures.

With tools like regression and time-series analysis, firms can anticipate demand changes, evolving customer preferences, and even emerging technologies. This predictive capacity allows companies to adjust strategies proactively, staying ahead of competitors. Marketing analytics capability plays a crucial role in aligning a firm's offerings with current market needs. Siagian (2022) emphasizes that quick and accurate market-oriented decisions enhance firms' responsiveness to market demands. Similarly, Jannah (2021) points out that the insights gained through market sensing, when supported by analytics, lead to more informed and effective responses. This ultimately strengthens the company's market position through faster and more precise adaptations.

3. The Influence of Marketing Analytics Capability on Market Seizing

The results also reveal a significant and positive effect of marketing analytics capability on market seizing. When companies analyze data effectively, they are better equipped to identify and exploit new business opportunities. In highly competitive environments, speed and accuracy in recognizing these opportunities can define a firm's success. Marketing analytics capability helps businesses assess opportunities through real-time or near-real-time market data analysis. This allows them to detect underserved market segments, shifts in consumer behavior, or emerging trends more quickly than competitors. Acting on this information can lead to early mover advantages in new market areas. Firms can also evaluate each opportunity's potential more quantitatively, using historical data and predictive models.

This data-driven approach enables them to estimate market size, potential returns, and associated risks. Consequently, firms can prioritize initiatives that offer the most promising returns (Saleh, 2021). Srinivasan (2022) further supports this by noting that deep customer insights enable tailored offerings that align closely with

identified opportunities. Personalized products or services help improve market acceptance, making the firm's offerings more attractive. This strategic fit boosts adoption rates and enhances overall business growth potential.

4. The Influence of Marketing Analytics Capability on Market Reconfiguring

The fourth hypothesis confirms that Marketing analytics capability has a significant impact on market reconfiguring. Firms that rapidly interpret and respond to market shifts gain a competitive edge by adapting their strategies to emerging needs and industry transformations. This adaptability is vital for staying competitive in turbulent markets. In-depth analytics uncover hidden insights about unmet customer needs or emerging disruptions. Through comprehensive data sources—including social media—companies can identify opportunities to reshape existing markets or create new ones. This proactive approach enhances strategic innovation and relevance.

By tracking behavioral shifts over time, companies understand how customer values and decision-making evolve. This enables them to design new offerings or even reconfigure their business models to better align with future market directions. The result is a dynamic capability to remain ahead of the curve. According to Rahmawan (2019), timely decisions empower firms to outperform competitors by redefining customer experiences and industry benchmarks. Leo (2021) adds that Marketing analytics capability -driven strategies help firms sustain their competitive edge even amid change, underscoring its role in future-proofing business models and operations
.

5. The Influence of Market Sensing on Sustained Competitive Advantage

The research confirms that market sensing directly contributes to sustained competitive advantage. A firm's ability to detect and act upon market trends and customer needs significantly enhances its long-term competitiveness. Those with strong market sensing capabilities often lead in innovation and customer satisfaction. This capability enables firms to understand present and future customer expectations, competitor actions, and broader industry developments. Early detection of such factors allows firms to capitalize on emerging opportunities or neutralize threats before others.

This time advantage is a key driver of enduring competitiveness.A deep grasp of customer preferences enables firms to deliver value continuously. Regular monitoring of customer feedback, market dynamics, and tech innovations ensures that offerings stay relevant. Such ongoing value creation fosters loyalty and strengthens a firm's market position (Tugiantoro, 2023). Gunawan (2019) adds that market sensing also fuels innovation by revealing unmet needs and potential areas for growth. Firms that innovate in response to these insights are more likely to produce unique, hard-to-imitate solutions, contributing to their long-term survival and success. Sustainable advantage thus becomes an outcome of insight-driven adaptation and creativity.

6. The Influence of Market Seizing on Sustained Competitive Advantage

The results indicate a positive and significant influence of market seizing on sustained competitive advantage. Market seizing reflects a firm's ability to act promptly and effectively upon identified opportunities, such as launching new products, entering untapped markets, and forming strategic alliances. These initiatives allow the firm to translate insights into actions that generate unique value and strengthen its market position. This finding reinforces the view that opportunity capture is not only a reactive process but a proactive strategy to build enduring competitive advantage.

Furthermore, the study supports previous findings by Aemawati (2024) and Nurfaizah (2022), who emphasized the importance of rapid opportunity exploitation in volatile business environments. When firms seize opportunities efficiently, they outperform competitors by locking in customer loyalty, expanding market share, and enhancing their innovation profiles. Thus, market seizing acts as a bridge between sensing external changes and translating them into competitive strength, confirming its pivotal role in sustaining long-term organizational success.

7. The Influence of Market Reconfiguring on Sustained Competitive Advantage

Market reconfiguring also shows a positive and significant impact on sustained competitive advantage. This capability reflects a firm's agility in reshaping market dynamics, redefining customer expectations, and innovating business models to maintain relevance amid changing external environments. Through this mechanism, firms not only adapt but lead market transformation, creating new rules of competition that favor their strategic strengths.

The findings are consistent with prior research by Santia (2022) and Romansyah (2021), who argued that reconfiguring allows firms to move beyond incremental adjustments and toward structural shifts that differentiate them from competitors. It enables the organization to escape industry constraints and craft a unique trajectory of value creation. As such, reconfiguring is not just a response to change but a source of proactive renewal, ensuring that competitive advantage is not only maintained but continually redefined in favor of the firm.

8. The Mediating Role of Market Sensing in the Relationship Between Marketing Analytics Capability and Sustained Competitive Advantage

The study reveals that market sensing significantly mediates the relationship between marketing analytics capability and sustained competitive advantage. Firms equipped with strong analytical capabilities can extract actionable insights from complex data, which enhances their ability to detect emerging trends, shifts in customer preferences, and competitive threats. Market sensing thus becomes a critical pathway through which analytics transforms into strategic foresight.

This finding aligns with Pangestika (2022), who emphasized that market sensing is essential in leveraging data for long-term strategic benefits. Organizations that continuously scan and interpret market signals are better positioned to anticipate changes and align resources accordingly. The mediating role of market sensing underscores that analytics alone is insufficient; it is the interpretive and proactive use of insights that enables firms to sustain their competitive position.

9. The Mediating Role of Market Seizing in the Relationship Between Marketing Analytics Capability and Sustained Competitive Advantage

Market seizing is found to significantly mediate the relationship between marketing analytics capability and sustained competitive advantage. Analytics provides the foundation for identifying viable opportunities, while seizing represents the tactical execution that brings these insights to fruition. By acting on data-driven evaluations of market opportunities, firms can respond faster and more effectively than competitors.

The findings are corroborated by Muntaha (2021), who emphasized the role of digital transformation and analytics in enhancing opportunity exploitation. Firms that combine data analytics with agile decision-making are more capable of capturing value from fleeting opportunities. This mediation underscores the need to complement analytics capability with dynamic execution to realize sustained performance benefits.

10. The Mediating Role of Market Reconfiguring in the Relationship Between Marketing Analytics Capability and Sustained Competitive Advantage

The results indicate that market reconfiguring significantly mediates the influence of marketing analytics capability on sustained competitive advantage. Firms that leverage analytics to foresee structural changes in the market can redesign their offerings, processes, and customer engagements. This proactive reshaping helps firms stay ahead of the curve and reestablish market leadership through innovation and value transformation.

This conclusion is supported by Alanudin (2021), who argued that data-driven insights facilitate strategic reinvention and market disruption. Analytics enables the identification of latent market demands and inefficiencies that can be targeted through reconfiguration. In this way, reconfiguring acts as the strategic realization of analytics potential, bridging the gap between knowledge and sustained competitive superiority.

11. The Moderating Role of Artificial Intelligence Adoption in the Relationship Between Marketing Analytics Capability and Market Sensing

The eleventh hypothesis confirms that marketing analytics capability positively and significantly influences market sensing, and this relationship is further strengthened by the adoption of artificial intelligence (AI). In pharmaceutical companies in Central Java, leaders with high analytical capabilities, when supported by advanced AI tools, are better equipped to track and interpret market trends. The incorporation of AI amplifies the firm's ability to extract timely, relevant insights from complex datasets, thereby enhancing their market-sensing abilities.

AI acts as a moderating variable by intensifying the effect of analytics capability on market sensing. It processes vast volumes of structured and unstructured data (including text, images, and videos) at high speed, providing comprehensive and real-time market visibility. With predictive analytics, firms can better anticipate market trends and customer behaviors. Moreover, AI enables dynamic personalization by identifying signals relevant to specific market segments or even individual consumers. As supported by Mingsep (2025), companies that strategically adopt AI enhance the conversion of data-driven insights into deeper market understanding, which strengthens their capacity to respond proactively to environmental changes.

12. The Moderating Role of Artificial Intelligence Adoption in the Relationship Between Marketing Analytics Capability and Market Seizing

The results of the twelfth hypothesis suggest a significant and positive effect of marketing analytics capability on market seizing, which is further reinforced by the adoption of artificial intelligence. Leaders who are adept at making data-driven decisions can more effectively leverage AI technologies to identify and capitalize on emerging business opportunities. In pharmaceutical firms across Central Java, the ability to convert insights into innovative breakthroughs is increasingly dependent on how well AI tools are integrated into the firm's strategic and operational processes.

AI plays a critical moderating role by improving the firm's agility in seizing opportunities. It enables faster identification and evaluation of market opportunities by uncovering hidden patterns in large datasets. AI can also simulate consumer responses to various strategic options, allowing for more precise selection of market strategies. Furthermore, AI-driven automation facilitates personalized and large-scale marketing actions, increasing responsiveness and engagement in key market segments. As Abdurohim (2023) highlights, firms with strong analytical capabilities and high AI integration can transform insight into impactful actions more rapidly and effectively, giving them a competitive edge in market responsiveness.

13. The Moderating Role of Artificial Intelligence Adoption in the Relationship Between Marketing Analytics Capability and Market Reconfiguring

The thirteenth hypothesis establishes that marketing analytics capability significantly influences market reconfiguring, and this effect is strengthened by the adoption of artificial intelligence. Companies with strong analytical skills can identify opportunities for transformation in products, customer behaviors, or entire market structures. When AI is embedded into this process, it allows for a more agile and proactive approach in reshaping the market landscape. For pharmaceutical firms in Central Java, this integration facilitates strategic shifts aligned with evolving market demands.

AI enhances market reconfiguring by detecting weak signals or hidden trends through advanced pattern recognition and anomaly detection. Natural Language Processing (NLP) and sentiment analysis tools can extract deep customer insights from social media and customer feedback, uncovering unmet needs that traditional methods might overlook. AI also supports market simulations and predictive modeling, enabling firms to explore various strategic scenarios and anticipate their outcomes. Additionally, AI can aid in rapid innovation cycles, from product development to go-to-market strategies. Abdurohim (2023) underscores that AI's role in dynamic market segmentation and personalized strategy execution significantly boosts a firm's capacity to reconfigure markets. Therefore, firms that combine analytics with AI are better positioned to lead rather than follow market change.

VI. CONCLUSION

Based on the analysis of the influence of marketing analytics capability on sustained competitive advantage moderated by the adoption of artificial intelligence in pharmaceutical companies in Central Java, the following conclusions are drawn:

First, marketing analytics capability has a positive and significant effect on sustained competitive advantage. Firms with strong analytics capabilities can make informed decisions based on market data, identify trends, understand customer needs, and respond effectively to competitive dynamics. In the pharmaceutical industry, where precision and adaptability are essential, marketing analytics provides a solid foundation for long-term strategic advantage. *Second*, marketing analytics capability significantly influences the three dimensions of dynamic capability: market sensing, market seizing, and market reconfiguring. These capabilities enable firms to detect emerging opportunities, act on them, and realign strategies and resources in response to changing market conditions. Effective use of analytics enhances responsiveness and adaptability in highly competitive environments. *Third*, market sensing, seizing, and reconfiguring each positively and significantly affect sustained

competitive advantage. This confirms the importance of dynamic capabilities in maintaining long-term competitiveness, especially in industries marked by rapid innovation and regulatory change like pharmaceuticals. *Fourth*, these dynamic capabilities mediate the relationship between marketing analytics capability and sustained competitive advantage. This indicates that while analytics provides critical insights, it is the firm's ability to act on those insights—through sensing, seizing, and reconfiguring—that ultimately drives competitive advantage. *Lastly*, the adoption of artificial intelligence strengthens the effect of marketing analytics on dynamic capabilities. AI enhances the speed and accuracy of data analysis, enabling firms to better sense market changes, seize emerging opportunities, and reconfigure resources efficiently. Organizations that integrate AI into their analytics processes are thus more capable of leveraging insights to maintain and enhance competitive positioning..

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We assure all participating companies and individuals that the confidentiality of your identities and company names will be preserved with the utmost integrity and professionalism. In accordance with our mutual agreement and our ethical commitment as researchers, no identifiable information will be disclosed or disseminated in any form. We also extend our heartfelt thanks to all individuals and institutions who provided support during the research process—whether through logistical assistance, academic input, or moral encouragement. Your contributions, in various forms, have been instrumental in the successful completion and publication of this research manuscript. We hope that this work serves as a meaningful contribution to the advancement of knowledge in the field of marketing analytics and strategic management.

2. REFERENCES

Abdullah, A. (2025). STRATEGI PEMASARAN DIGITAL : Mendorong Kesuksesan Bisnis Secara Online STRATEGI PEMASARAN DIGITAL : Mendorong Kesuksesan Bisnis Secara Online (Nomor March).

Abdurohim. (2023). Buku Referensi Strategi Bisnis Pada Era Society 5.0. Eureka Media Aksara.

Aemawati, T. (2024). Pengaruh Teknologi Digital, Strategi Marketing dan Inovasi Produk terhadap Sustained Competitive UMKM Kota Palu. Jurnal Ilmu Manajemen Methonomix, 7(2), 82–96.

Afifah, U. (2018). Aliansi Strategis Untuk Membangun Keungulan Kompetitif Umkm. Ulfa Afifah, 6(11), 951–952. https://r.search.yahoo.com/_ylt=AwrKB5DtUvFlYRcK1APLQwx.;_ylu=Y29sbwNzZzMEcG9zAzUEdnRpZAMEc2VjA3Ny/RV=2/RE=1710343021/RO=10/RU=https%3A%2F%2Fjournal.ugm.ac.id%2Fabis%2Farticle%2Fdownload%2F59091%2F28707/RK=2/RS=QidYajGMo21Sx2vioSBxjdmRJpg-

Agit, A., & Muharram, S. (2024). URGENSI INTEGRASI ARTIFICIAL INTELLIGENCE DALAM MENINGKATKAN ADAPTABILITAS DAN KINERJA BISNIS. November, 1506–1519.

Alam, W. Y., Junaidi, A., & Irnanda, Z. R. (2025). Economics and Digital Business Review Peran Artificial Intelligence dalam Optimalisasi Customer Relationship Management (CRM) dan Pemasaran Digital. 6(1).

Alanudin, D. (2021). strategi transformasi digital peran toe framwork, adopsi analitik bisnis dan retensi pengetahun di era digital. Jurnal Syntax idea, 2(4), 23–34.

Ariri, A., & Digdowiseiso. (2024). THE INFLUENCE OF ENTREPRENEURIAL ORIENTATION, MARKETING ORIENTATION, AND ORGANIZATIONAL INNOVATION CAPABILITY ON MARKETING PERFORMANCE OF MSMEs THROUGH COMPETITIVE ADVANTAGE. 7.

Cao, G., Tian, N., & Blankson, C. (2022). Big data, marketing analytics, and firm marketing capabilities. Journal of Computer Information Systems.

Conrads, J., Heinzen, M., & Baum, M. (2023). Reconfiguring resources for strategic posture: Changes of entrepreneurial orientation through acquisition. Journal of Open Innovation: Technology, Market, and Complexity, 9(3), 100135. https://doi.org/10.1016/j.joitmc.2023.100135

Debora Oktaviani, Fikra Terisha A, Mashita Ayuni, Tesalonika Sembiring, Wynne Lie, & Eryc Yeo. (2024). Analisis Dampak Kecerdasan Buatan dalam Peningkatan Efisiensi Pemasaran Digital di Industri E-

commerce Indonesia. Jurnal Manajemen Dan Bisnis Ekonomi, 2(4), 01–10. https://doi.org/10.54066/jmbe-itb.v2i4.2385

Febrianka, V. W. (2016). Kebijakan dan Manajemen Publik Kinerja Koperasi Studi Tentang Faktor-Faktor Penyebab Tidak Aktifnya Koperasi Gotong Royong Kota Blitar. Jurnal Kebijakan dan Manajemen Publik, 4(3), 1–11.

Gunawan, J. (2019). Entrepreneurship, entrepreneurs to Win their sustainable competitive advantages within globalization era. Journal of the winners, 1(3), 12–24.

Houessou, A. M., Aoudji, A. K. N., Biaou, G., & Floquet, A. (2023). Market opportunities seizing capability and fish farming firm performance: A dynamic managerial capability perspective. Heliyon, 9(8), e19019. https://doi.org/10.1016/j.heliyon.2023.e19019

Jannah, S. (2021). pengaruh market sensing capability, inovasi produk dan business strategy terhadap competitive advantage pada usaha kecil. Jurnal Manajemen Dayasaing, 2(3), 1–11.

Jaya, H., Sabran, D., Pd, M., Ma, M., Djawad, Y. A., Sc, M., Ilham, A., Ahmar, A. S., Si, S., & Sc, M. (2019). Kecerdasan Buatan. In Journal of Chemical Information and Modeling (Vol. 53, Nomor 9).

Khusumadewi, A., W. S., H. W., & Wiyono, B. D. (2017). Pengembangan Modul Cultural Awareness Untuk Konselor Sebaya. Bikotetik (Bimbingan dan Konseling Teori dan Praktik), 1(1), 30. https://doi.org/10.26740/bikotetik.v1n1.p30-36

Leo, A. (2021). Toward a Business resilience framework for stratups. Sustainability Academic, 13(6), 3132–3140.

Mingsep, R. (2025). Sistem Pendukung Keputusan Teori dan Implementasi Era Society. PT Sonpedia Publishing Indonesia.

Muntaha, S. (2021). Strategis Transformasi Digital pada Mitra Bisnis Ekonomi Berbagi di Media Daring. Jurnal Kemitraan dalam Ekonomi, 12(2), 12–23.

Mutmainah, Armawati, & Tovan. (2024). PENGARUH TEKNOLOGI DIGITAL, STRATEGI PEMASARAN ONLINE, DAN INOVASI PRODUK TERHADAP KEUNGGULAN KOMPETITIF UMKM DI KOTA PALU. 7(2), 90–92.

Nurfaizah, S. (2022). the mediating role of entrepreneurial resilience in transforming enironmental factor tubulance into sustainabel competitive advantage. Jurnal Manajemen dan Inovasi, 13(2), 13–25.

Pangestika, D. (2022). pengaruh orientasi kewirausahaan, manajemen pengetahuan terhadap kinerja perusahaan melalui inovasi produk studi empiris UMKM Kerajinan Akar Jati Probolinggo. Jurnal Ekonomi dan Bisnis, 2(1), 12–23.

Prihanto, J. N. (2018). Transformasi Digital Media Cetak Di Indonesia: Studi Pada Industri Media Cetak Terferivikasi Administratif Dan Faktual 2017. ULTIMA Management, 10(1), 26–43. https://doi.org/10.31937/manajemen.v10i1.853

Rahmadani, R., & Qomariah, S. (2022). Menciptakan Keunggulan Bersaing Berkelanjutan Berbasis Sumber Daya Manusia dalam Dunia Pendidikan. Tarbiyah Wa Ta'lim: Jurnal Penelitian Pendidikan dan Pembelajaran, 9(2), 108–117. https://doi.org/10.21093/twt.v9i2.4272

Rahmawan. (2019). peran customet fit reconfiguring capability pada pengaruh customer orientation terhadap sustainable competitive salesperson performance. Journal Economic and Bussines, 2(5), 14–26.

Romansyah. (2021). Pengaruh sensing, seizing danreconfiguring terhadap sustained improvement growth competitive di kalangan penjual gresik. Jurnal Administrasi dan Manajemen, 3(5), 12–23.

Saleh, C. (2021). Pengaruh Inovasi Produk dan Marketing Pemasaran Terhadap Market Sensing Penjualan Online. Jurnal Clavia Manajemen, 19(3), 354–374.

Santia, D. (2022). Pengaruh Modal Intelektual, Market sensing capabilities dan inovasi produk terhadap competitive advantage studi usaha mikro wonosobo. Jurnal Manajemen Pemasaran, 2(3), 12–20.

Siagian, F. (2022). peran perilaku militer organisasi dalam mediasi pengaruh kepemimpinan, kepuasaan kerja terhadap kinerja perusahaan. Clitatea, 23(191), 1–9.

Srinivasan, R. (2022). Technological opportunism and radical technology adoption. Journal of marketing, 66(3), 47–60.

Subchan, N. (2024). Conceptual Framework of Innovative Library Services Based on Artificial Intelligence (AI) in Order to Accelerate Digital Transformation. JPUA: Jurnal Perpustakaan Universitas Airlangga: Media Informasi dan Komunikasi Kepustakawanan, 14(1), 1–14. https://doi.org/10.20473/jpua.v14i1.2024.1-14

Sudiantini, D., & Hadita. (2022). Manajemen Strategi. CV. Pena Persada, 1–81. https://fitk.iainambon.ac.id/mpi/wp-content/uploads/sites/7/2019/09/Manajemen-Strategi_LANTIP.pdf

Sugiyono, P. D. (2022). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Alfabeta.

Theoharakis, V., Zheng, Y., & Zhang, L. (2024). Dynamic strategic marketing planning: The paradox of concurrently reconfiguring and implementing strategic marketing planning. Journal of Business Research, 174(February), 114525. https://doi.org/10.1016/j.jbusres.2024.114525

Theresia Tulusan, M., Merry Julia Jamilah Langi, Ms., Arief Yanto Rukmana, Ms., DrIr Yusro Hakimah, M., Tobari, M. H., Taswin, Ms., Frans Sudirjo, Mk., Amtai Alaslan, M., Abdurohim, Ms., & Tien Yustini, M. (2024). Penulis: MANAJEMEN STRATEGIS. www.getpress.co.id

Tugiantoro. (2023). Marketing Green Intellectual Capability and sustained competitive advantage in the industrial sector of Indonesia. Jurnal Reviu Akuntansi dan Keuangan, 13(1), 134–156.

Utami, D. (2020). Analisis pengaruh pemanfaatan aplikasi seluler online terhadap innovative capability pelaku usaha di Semarang. Jurnal Manajemen dan Bisnis (JMB), 2(1), 134–146.

Wamba, S. F., Gunasekaran, A., Akter, S., Ren, S. J. F., Dubey, R., & Childe, S. (2017). Big data analytics and firm performance: Effects of dynamic capabilities. Journal of business research.

Wicaksono, D. A. (2024). Peran Kecerdasan Buatan dalam Meningkatkan Efisiensi dan Efektivitas Strategi Pemasaran Omnichannel pada UMKM di Kota Semarang. 10(2), 345–357.

Wicaksono, S. R. (2023). Transformasi Digital Sudut Pandang Analisis Swot (Nomor March). https://doi.org/10.5281/zenodo.7703463

Widyandaru, B. W. (2020). BERKELANJUTAN PT SMF.

Wilden, R. (2020). The Effects of Sensing and Seizing of Market Opportunities and Reconfiguring Activities on the Organisational Resource Base Ralf. University of Technology, Sydney, 1–23.

Zainul, S. (2021). Menggunakan kemampuan dinamis berbasis teknologi untuk mengembangkan inventif perusahaan dan kelincahan proses bisnis: efek moderasi dari lingkungan yang bergolak. Jurnal Ilmu dan Studi Manajerial, 2(2), 134–160.