

Review of Management Literature



**Review of
Technologies
and Disruptive
Business
Strategies**

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REVIEW OF MANAGEMENT LITERATURE VOLUME 3

**REVIEW OF
TECHNOLOGIES AND
DISRUPTIVE BUSINESS
STRATEGIES**

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PREFACE

In this era of rapid technological advancement and digital transformation, understanding the multifaceted impact of disruptive innovations becomes crucial for both academics and practitioners alike. This edited volume, comprising 13 chapters, offers a comprehensive exploration of the intersection between disruptive technologies, market transformation, and strategic business practices. Each chapter contributes a unique perspective, meticulously researched, and presented by leading academics and researchers from diverse backgrounds.

The book is structured into five sections, each focusing on a different aspect of technological disruptions and innovations. The first section lays the groundwork by examining the effects of disruptive innovations on market transformation, while the second section delves into the evolving landscape of digital and artificial intelligence in services and marketing. The third section offers insights into sector-specific technological disruptions, highlighting case studies and practical applications. The fourth section shifts the focus to strategic perspectives in business and technology, exploring the dynamics of leadership and collaboration in the face of technological change. Finally, the fifth section provides an overview of smart technologies and services, suggesting directions for future research and implementation.

TABLE OF CONTRIBUTIONS

Chapter	Title	Key Contribution
1	Change Management in the Adoption of Disruptive Innovation: A Critical Review	Explores the critical role of change management in the successful adoption of disruptive innovations.
2	A Systematic Review of the Hospitality and Tourism Industry through the Lens of Disruptive Innovations	Analyzes the impact of disruptive technologies on the hospitality and tourism industry.
3	Digital Enigma: Understanding Ethical Dilemmas in Design and Marketing	Investigates the ethical challenges in digital design and marketing strategies.

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Chapter	Title	Key Contribution
4	A Bibliometric Analysis and Visualization of Medical Artificial Intelligence Research	Presents an analysis of trends and developments in medical AI research.
5	Metaverse Marketing: A Guide to Reaching the Next Generation of Consumers	Discusses strategies for engaging consumers in the emerging digital landscape of the metaverse.
6	A Review of Self-Service Technology Adoption in the Tourism and Hospitality Industry	Examines the adoption and implications of self-service technologies in tourism and hospitality.
7	Sustainable Competitive Advantage in Heritage Tourism: Leveraging Cultural Legacy in a Data-Driven World	Explores strategies for leveraging cultural heritage for competitive advantage in tourism.
8	Transformative Influence of Disruptive Innovations on Markets and Business Performance	Analyzes the transformative impact of disruptive innovations on business strategies and market performance.
9	A Literature Survey of Technological Disruptions in the Service Sector	Provides a comprehensive survey of technological disruptions in the service sector.
10	Navigating Strategic Leadership: Unraveling the Dynamics of Technological Innovation in Organizations	Explores the role of strategic leadership in navigating technological innovation.
11	Collaborative Arrangements in Developing Successful Business Strategies: Literature Review	Investigates the importance of collaborative strategies in business success.
12	A Literature Review on Smart Technologies in Service Systems: How Should We Work on in the Future?	Offers insights into the role of smart technologies in service systems and future directions.
13	Exploring the Internet of Things-Marketing Connection: A Bibliometric Review and Directions for Future Research	Analyzes the connection between IoT and marketing, suggesting areas for future research.

This volume aims to equip readers with a nuanced understanding of how disruptive technologies are reshaping industries, challenging existing business models, and creating new opportunities for innovation and growth. It encourages a multidisciplinary approach to studying and leveraging technological disruptions,

emphasizing the importance of adaptability, strategic foresight, and collaboration in the digital age.

This book, *Review of Technologies and Disruptive Business Strategies*, encapsulates a vast array of perspectives on the intersection of technology and business, making it an indispensable resource for scholars, academicians, and practitioners alike. Its comprehensive exploration of the literature offers a deep dive into the transformative effects of technological innovations on business practices, providing readers with the insights needed to navigate the complexities of the modern business landscape. This collection is poised to serve as a foundational text for anyone seeking to understand or contribute to the evolving discourse on technological disruption and business strategy.

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LEVERAGING DISRUPTIVE TECHNOLOGIES AND STRATEGIES FOR COMPETITIVE ADVANTAGE

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ABSTRACT

The recent pandemic has witnessed increased digitalization. The supply chain disruptions have forced businesses to adopt innovative business strategies that were not prevalent in previous years. This chapter elaborates on how integrating disruptive technologies such as artificial intelligence (AI), blockchain, and the Internet of Things (IoT) into business strategies is essential for modern organizations. It emphasizes creating and capturing value through business model innovation, highlighting the significance of developing a value proposition differentiating an enterprise in the market. This involves rethinking and re-designing how organizations create customer value, leveraging these technologies to enhance efficiency, customer experience, and competitive advantage. This chapter advocates for a proactive approach to technology adoption, stressing the importance of agility, innovation, and a forward-thinking leadership mindset in capitalizing on the opportunities presented by technological advancements.

Keywords: Dynamics capabilities; business model innovation; disruptive technologies; disruptive business strategies; technology integration

1. INTRODUCTION

In an era marked by rapid technological evolution, the deliberation exploring the critical intersection between disruptive technologies and business strategies within management practices has become imperative. Disruptive technologies are innovations that significantly alter how businesses, industries, or markets operate.

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These technologies can potentially displace established technologies, shake up the industry, or create new ones. They are characterized by their ability to offer better functionality, convenience, or other benefits at a lower cost, which can lead to rapid adoption and transformation of current practices or economic structures (Bongomin et al., 2020).

1.1 Understanding Disruptive Technologies

Disruptive technologies are not just improvements or enhancements of existing technologies; they are innovations that cause a paradigm shift. They often start by catering to a niche market or need but eventually grow to dominate or significantly alter the existing market landscape, leading to the obsolescence of older technologies or methods. Key characteristics of disruptive technologies include (Abdel-Basset et al., 2021).

- *Innovativeness*: They bring something novel to the market, including new business models, products, or services that have not been seen before.
- *Accessibility*: They tend to make products or services more accessible and affordable to a broad segment of the population, which was previously excluded due to cost or complexity.
- *Market Transformation*: Disruptive technologies can potentially change the way markets or industries operate, often leading to new standards and practices.
- *Displacement of Established Technologies*: Over time, these technologies can displace established technologies, making them obsolete. This displacement can happen quickly or over a more extended period, depending on various factors, including the technology's adoption rate and the existing market structure.
- *Creation of New Value Networks*: They often create new markets and value networks, leading to the reconfiguration of existing industries or the emergence of new ones.

Understanding and identifying disruptive technologies is crucial for businesses and policymakers to stay ahead of trends, invest wisely, and adapt to changes that could impact their operations or sectors (Taeihagh et al., 2021). Adopting or adapting to disruptive technologies can provide significant competitive advantages, open new markets, and lead to substantial economic benefits (Bongomin et al., 2020).

1.2 Understanding Disruptive Business Strategies

Disruptive business strategies refer to approaches and methodologies that fundamentally alter the competitive dynamics of industries or markets (Olabode et al., 2022). Organizations typically employ these strategies to introduce innovations that disrupt existing market structures, displace established market leaders, or create entirely new markets. Disruptive strategies are not just about technology; they encompass new business models, processes, and ways of

delivering value to customers that significantly impact how an industry operates. Disruptive business strategies require visionary leadership, a willingness to take risks, and a deep understanding of market needs and trends. While these strategies can offer significant rewards, including rapid growth and market leadership, they also carry risks, as they often challenge established market norms and provoke strong responses from existing competitors (Abu-Rumman, 2021).

Here are several key aspects and examples of disruptive business strategies, some of which are listed below:

- **Innovative Business Models:** Companies employ innovative business models that challenge the status quo, offering products or services in a way that is not only different but often more efficient, cost-effective, or accessible than traditional methods (Shakeel et al., 2020)
- **Market Re-segmentation:** Identifying underserved or overlooked market segments and targeting them with tailored products or services. This strategy often involves offering simpler, more affordable solutions that appeal to customers who do not need or cannot afford the full-featured offerings of the incumbents (Sincharoenkul, 2022).
- **Cost Structure Innovation:** Radically changing the cost structure of delivering a product or service, allowing for lower prices or different pricing models that can attract a broader customer base. This could involve automation to reduce labor costs, outsourcing to take advantage of lower cost resources, or innovative supply chain management (Lestari et al., 2020).
- **Value Network Redefinition:** Changing how a company delivers value to its customers, often by leveraging digital platforms to create direct relationships with end users, bypassing traditional intermediaries (Martín et al., 2022).
- **Sustainability and Social Impact:** Developing business strategies that address environmental concerns, social issues, or both can disrupt industries by appealing to the growing segment of consumers who prioritize sustainability and ethical considerations in their purchasing decisions (Hanaysha et al., 2020).

This special issue delves into how organizations can adapt to and leverage emerging technologies – such as artificial intelligence (AI), blockchain, and the Internet of Things (IoT) – to foster innovation, enhance competitive advantage, and drive sustainable growth. The issue further emphasizes the importance of agile strategic planning, the role of visionary leadership, and the necessity for a culture that embraces change. By highlighting successful case studies and offering practical frameworks, the discussion underlines that the effective integration of disruptive technologies into business strategies is not merely an option but a necessity for thriving in the contemporary business landscape.

2. DYNAMIC CAPABILITIES

Dynamic capabilities refer to an organization's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Kurtmollaiev, 2020). This concept is rooted in the fields of

strategic management and organizational theory. It emphasizes the need for companies to adapt, innovate, and renew their resources and processes to maintain competitive advantage in dynamic markets (Mishra & Sharma, 2022; Wang & Ahmed, 2007). Dynamic capabilities can be understood through three primary activities:

- (1) *Sensing and Shaping Opportunities and Threats*: The ability to identify, evaluate, and seize business opportunities in the environment, including technological changes, market trends, and shifts in consumer preferences. This also involves recognizing potential threats and adapting strategies accordingly.
- (2) *Seizing Opportunities*: Once opportunities are identified, the organization must mobilize resources to capture these opportunities. This involves investing in new technologies, launching new products or services, entering new markets, or enhancing existing offerings.
- (3) *Reconfiguring*: Organizations must continuously reconfigure their asset base and structure to adapt to changing environments. This includes modifying processes, restructuring organizational models, and developing or enhancing new capabilities.

Dynamic capabilities are critical for sustaining competitive advantage, especially in industries characterized by rapid technological change and high levels of uncertainty. They allow firms to be more agile, innovative, and responsive to changes, ensuring long-term success and viability.

3. BUSINESS MODEL INNOVATION

Business model innovation involves rethinking your company's approach to creating, delivering, and capturing value. It's a broad concept encompassing changes in products or services, processes, market segments, and revenue streams (Vaska et al., 2021). A key aspect of business model innovation is the value proposition, the unique mix of products, services, and benefits a company offers its customers (Keiningham et al., 2020; Sahni & Kaurav, 2023). Here's how business model innovation can impact value proposition creation and capture:

3.1 Value Proposition Creation

- **Customer Needs and Segmentation**: Business model innovation often starts with a deep understanding of customer needs, including unmet or underserved needs. Innovating your business model can involve creating new value propositions that more accurately or completely meet these needs.
- **Differentiation**: By innovating the business model, companies can differentiate their value proposition from competitors. This could involve offering unique products or services, leveraging technology in new ways, or reimagining the customer experience.

- **Leveraging Technology:** The use of new technologies can enable companies to create value propositions that were previously impossible. For example, digital platforms can connect users and providers in a two-sided market, creating value for both groups.

3.2 Value Capture

- **Revenue Models:** Business model innovation often includes rethinking how the company makes money. This could involve introducing new revenue streams such as subscriptions, freemium models, or dynamic pricing strategies.
- **Efficiency and Scalability:** Innovations in the business model can lead to more efficient operations and greater scalability. For example, moving to a digital service delivery model can reduce costs and enable the business to scale more rapidly.
- **Strategic Partnerships:** Forming new partnerships or ecosystems can be a way to capture value through innovation in a business model. Organizations can offer a more comprehensive value proposition by collaborating with other companies or entering new markets.
- **Customer Relationships and Engagement:** Innovating the business model can also involve new ways of engaging customers, such as through personalized services or community-building activities. This can enhance customer loyalty and increase lifetime value.

Thus, we can say that business model innovation related to value proposition creation and capture is about finding new ways to serve customers and monetize the value provided. It requires a deep understanding of customer needs, market dynamics, and the potential of technology, combined with a willingness to experiment and adapt.

Fig. 1 depicts a conceptual framework for disruptive innovation through digital technology.

The conceptual framework given in the Fig. 1 outlines a three-phase process:

- (1) *Exploration Phase:* This initial phase is where organizations or entities sense opportunities or threats, seize them by investing resources, and reconfigure their assets to adapt to the changes, leveraging dynamic capabilities.
- (2) *Expansion Phase:* In this phase, the innovation gains momentum as the value proposition, creation, and capture mechanisms are refined. This often involves business model innovation, where digital technology is used to develop new ways of delivering value to customers and capturing revenue.
- (3) *Reinforcement Phase:* The final phase solidifies the disruptive innovation. The value propositions become well-established, and the business models are reinforced to sustain the competitive advantage obtained through the innovation.

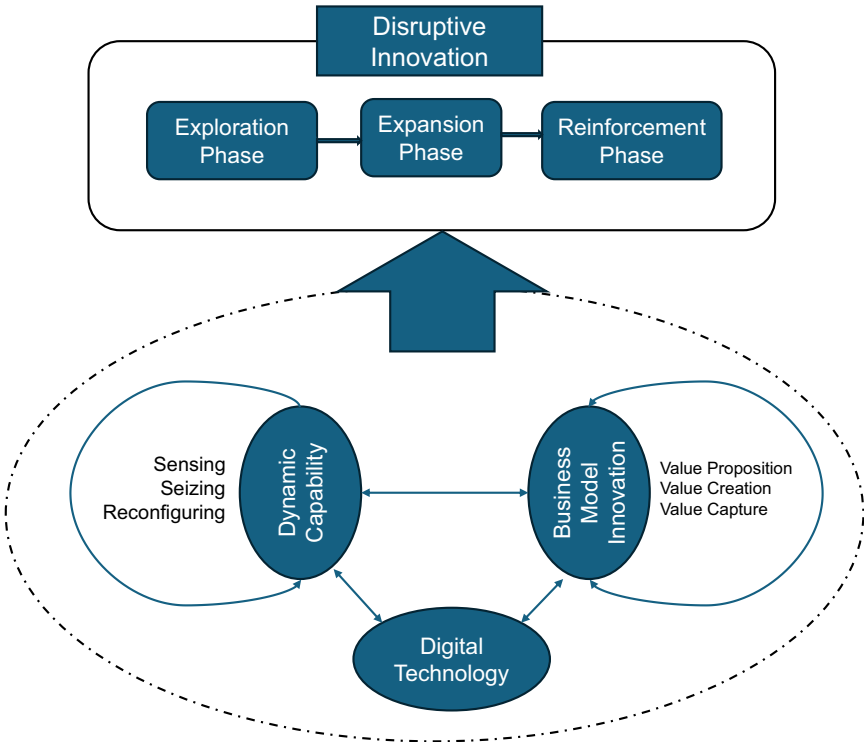


Fig. 1. Conceptual Framework for Disruptive Innovation. *Source:* Author's compilation.

The conceptual framework also highlights the interplay between dynamic capabilities (sensing, seizing, and reconfiguring) and business model innovation (value proposition, value creation, and value capture), suggesting that digital technology is the driving force that connects these elements. This framework suggests that successfully navigating through these phases can help organizations disrupt their industries effectively with digital technology. Next, we discuss five handpicked disruptive technologies and five disruptive business strategies.

4. KEY DISRUPTIVE TECHNOLOGIES

Digital transformation, disruptive technologies, and disruptive business strategies are reshaping industries and altering the competitive landscape at an unprecedented pace (Mishra & Sharma, 2022). Digital transformation refers to integrating digital technology into all business areas, fundamentally changing how it operates and delivers value to customers (Vial, 2021). It's not just about upgrading your IT infrastructure; it's a strategic overhaul that requires rethinking

old business models, processes, and customer interactions and considering digital possibilities. At its core, digital transformation is driven by the need to meet changing consumer expectations and to adapt to a digital economy where agility, innovation, and speed are paramount (Shrivastava, 2017).

Key technologies are at the forefront of driving digital transformation and disruption include but are not limited to:

- *AI and Machine Learning (ML)*: AI and ML are enabling businesses to predict customer behavior, automate decision-making, and personalize customer experiences at scale (Wu et al., 2021). Holmström (2022) provides a framework in their seminal work, which organizations can utilize to assess AI readiness. Mishra et al. (2015) highlight the importance of ML in risk predictions of chronic diseases such as diabetes. AI can help healthcare professionals deliver precision care, reducing the risk and wastage in healthcare delivery (Johnson et al., 2021).
- *Blockchain Technology (BT)*: BT has proven useful in removing business inefficiency (Kant, 2021). This technology offers a secure and transparent way to conduct transactions, impacting industries from finance to supply chain management (Pal et al., 2021). The adoption of blockchain builds trust in supply chains and reduces the cash-to-cash cycle. Blockchain is also important in implementing smart and secure business contracts (Macrinici et al., 2018). Recent literature discusses blockchain use cases in applications such as vaccine passports and the management of counterfeit drugs in pharmaceutical supply chains (Dua et al., 2022; Kaurav et al., 2020; Mishra, 2022; Thakuriya et al., 2023).
- *Internet of Things (IoT)*: IoT represents a transformative wave in the digital revolution, embedding intelligence into everyday objects to facilitate seamless interaction between the physical and digital worlds (Sankar et al., 2020). By augmenting physical processes with sensors and network connectivity, IoT allows for the collection and exchange of data across a vast array of items – from home appliances to industrial machinery, creating an interconnected ecosystem that enhances efficiency, enables new services, and improves the quality of life (Mishra & Madakam, 2022). This technology has paved the way for smart homes, intelligent transportation systems, and enhanced healthcare solutions, promising a future where real-time information and automation can significantly influence how we live, work, and interact with our environment (Mishra & Rana, 2023).
- *Cloud Computing*: Cloud computing represents a paradigm shift in how technology is consumed and managed. It offers scalable and flexible IT resources over the internet, available anytime from anywhere (Sunyaev & Sunyaev, 2020). It enables businesses to access immense computing power, storage, and applications as services without upfront investment in expensive physical infrastructure. With its ability to foster innovation, agility, and resilience, cloud computing has become a cornerstone of digital transformation strategies across

industries, reshaping how organizations operate and deliver value to their customers (Oke et al., 2023).

- **5G Technologies:** 5G technology represents the fifth generation of mobile network technology, succeeding the 4G networks that currently facilitate our smartphones' connectivity (Dogra et al., 2020). It promises to revolutionize digital communications by offering significantly faster data download and upload speeds, reduced latency, and more reliable connections (Taboada & Shee, 2021). This leap in technology is not just about speedier internet browsing or quicker download times; it's set to transform a wide array of sectors, including autonomous driving, smart cities, telemedicine, and IoT, enabling devices to communicate with each other more efficiently than ever before.

The technology discussed in the article is interlinked and can be depicted as a honeycomb structure in Fig. 2. The successful utilization of the interplay of these technologies helps an organization harness the full potential of these disruptive technologies.

5. KEY DISRUPTIVE BUSINESS STRATEGIES

Disruption isn't just about technology; it's also about how businesses leverage new technologies to create innovative business models and strategies that

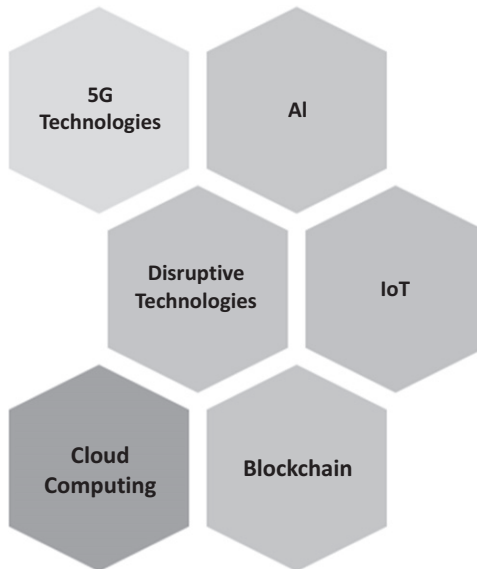


Fig. 2. Key Disruptive Technologies for Competitive Advantage. Source: Author's compilation.