

Impact of Adaptive Strategic Management on Business Growth Powered by Digital Innovation

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ABSTRACT

In today's fast-paced economy, digital transformation is essential for sustainable business growth and competitive advantage. This study explores the critical role of Adaptive Strategic Management (ASM) in driving organizational growth, with digital innovation serving as a key moderating and enhancing factor. The primary goal is to analyze how digital innovation affects the ASM-business growth relationship by improving adaptability and responsiveness and integrating digital technologies into operations. Using a mixed-methods approach, the study combines quantitative data from structured surveys with qualitative insights from interviews and case studies. Essential factors for successful digital integration include strong leadership, robust IT infrastructure, and comprehensive employee training. The study addresses challenges such as resistance to change, skills gaps, and legacy system integration, offering strategies like targeted upskilling, change management, and strategic alignment. The findings provide actionable insights for business leaders on aligning digital initiatives with ASM to foster resilience and competitiveness. Recommendations include creating digital literacy programs, establishing Digital-ASM Alignment Offices, and adopting customer-focused digital strategies. Policymakers are encouraged to build supportive environments for digital transformation, while investors are advised to prioritize firms that effectively integrate ASM and digital innovation. This research contributes to the literature on strategic management and digital innovation by presenting empirical evidence of the synergies between ASM and digital tools. Future studies should examine sector-specific applications, cultural impacts, and emerging technologies to deepen understanding of ASM's role in driving sustained growth and ESG objectives..

Keywords: Adaptive Strategic Management, digital innovation, organizational growth, business resilience....

1. INTRODUCTION:

In the current dynamic economic environment, digital transformation has become a strategic necessity for businesses aiming for sustainable growth and industry dominance. This study examines the crucial function of Adaptive Strategic Management (ASM) in facilitating organizational business growth, highlighting the role of digital innovation as a moderating and augmenting element. The introduction of digital technologies has completely changed the business world, forcing companies to constantly develop new ideas and adapt to new conditions. This change can be seen in every industry, where old business ways are being challenged, calling for more flexible methods to stay ahead of the competition.

The fast pace of technological change and growing globalization have made it more important for businesses to be more responsive and flexible in managing their strategies. Adaptive Strategic Management (ASM) has become popular as a solution to these problems. Traditional strategic management approaches, which often rely on static and long-term planning, are inadequate for addressing modern markets' dynamic and unpredictable nature. This has highlighted the need for Adaptive Strategic Management (ASM).

Despite the recognized importance of both ASM and digital innovation, limited empirical research explores how digital innovation moderates the relationship between ASM and business growth. This study aims to fill this gap by investigating how digital innovation influences the effectiveness of ASM in driving organizational growth. By examining the moderating role

of digital innovation, the research provides a comprehensive understanding of how organizations can leverage digital technologies to enhance their adaptive capabilities and achieve sustained growth. The findings are expected to contribute to academic knowledge and offer practical.

2. RESEARCH OBJECTIVES:

To examine the impact of adaptive strategic management on organizational business growth.

How do the long-term effects of digital innovation evolve on Business growth?

To analyze how integrating digital technologies into business processes influences the effectiveness of adaptive strategic management.

To explore the moderating effects of specific digital innovations (e.g., AI, big data analytics, IoT) on the relationship between adaptive strategic management and business growth.

To identify the key factors determining the successful implementation of digital innovation in adaptive strategic management.

To investigate the role of digital innovation in enhancing organizational adaptability and responsiveness.

Research Questions: Five RQs:

How does adaptive strategic management affect organizational business growth?

What is the role of digital innovation in enhancing organizational adaptability and responsiveness?

How does integrating digital technologies into business processes influence the effectiveness of ASM?

In what ways do specific digital innovations (e.g., AI, big data analytics, IoT) moderate the relationship between ASM and business growth?

What are the key factors determining the successful implementation of digital innovation in the context of ASM?

Research Hypotheses:

Hypothesis 1 (H1): Adaptive strategic management significantly influences organizational business growth.

Hypothesis 2 (H2): Digital innovation enhances organizational adaptability and responsiveness, improving performance.

Hypothesis 3 (H3): Integrating digital technologies into business processes significantly influences the effectiveness of adaptive strategic management.

Hypothesis 4 (H4): Digital innovation positively moderates the relationship between adaptive strategic management and business growth.

3. LITERATURE REVIEW (SUMMARY):

Topic	Main Contributors	Summary
Historical Context and Chronological Review of ASM	Ansoff (1965), Senge (1990), Teece et al. (1997, 2016), Weber & Tarba (2014)	Outlined the evolution of ASM from corporate strategy to dynamic capabilities and strategic agility, emphasizing adaptability and responsiveness.
The Role of Digital Innovation in Strategic Management	Brynjolfsson & McAfee (2014), Nambisan et al. (2017), Di Vaio et al. (2021), Rego et al. (2021), Kohli & Melville (2019), Ravichandran (2018), Hanna (2018), Nyland & Holmström (2015)	Highlighted how digital technologies such as AI, big data, and cloud computing drive strategic agility, improve decision-making, and reshape innovation management.
Impact of ASM on Business Growth	Teece et al. (2016), Weber & Tarba (2014), Ravichandran (2018), Delmar et al. (2003), Raut et al. (2018), Dutta et al. (2015)	Demonstrated that ASM enhances competitiveness and growth by enabling proactive adaptation, innovation, and alignment with dynamic environments.
Challenges and Barriers to Integrating Digital Innovation with ASM	Kotter (1996), Markus & Tanis (2000), Wischnevsky & Damampour (2006), Fichman & Kemerer (1997), Davenport & Harris (2007), Weking et al. (2018), Müller et al. (2021), Mattsson & Andersson (2019), Bickauske et al. (2021), Russ (2021)	Identified resistance to change, tech complexity, skill gaps, and the need for culture shift as key barriers to digital integration into ASM.
Digital Innovation as a Moderator in ASM	Bui & Tran (2023), Dutta et al. (2015), Khan & Tao (2022), Mishrif & Khan (2023), Kupiek (2021)	Explored how digital tools, personal innovativeness, and emotional intelligence enhance ASM's effectiveness in dynamic environments.
Future Directions for Research on ASM and	Rahmanzadeh et al. (2023), Nambisan et al. (2017), Lawson & Samson (2001)	Recommended deeper sector-specific studies and development of metrics to measure digital innovation.

Digital Innovation		impact on strategic agility and performance.
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Research Gap:

Although substantial literature exists on strategic management and digital innovation, a significant gap remains in understanding how digital innovation affects the relationship between Adaptive Strategic Management (ASM) and organizational business growth.

Prior research predominantly focuses on examining the separate effects of strategic management practices and digital technologies on business performance, often overlooking the combined effects that emerge when these elements are integrated. Additionally, while extensive research covers the advantages of digital innovation in enhancing an organization's adaptability and responsiveness, there is a limited comprehensive analysis of how specific digital innovations, such as AI, big data analytics, and IoT, impact ASM.

This research seeks to comprehensively understand how digital innovation moderates the relationship between ASM and organizational business growth. The findings contribute to existing knowledge in strategic management and digital innovation, providing practical guidance for business leaders and strategists who want to effectively navigate the challenges of the digital age.

Furthermore, there is a lack of thorough investigation into the key factors determining the effective execution of digital innovation in adaptive strategic management. Most studies do not thoroughly examine businesses' practical challenges and obstacles when incorporating digital technologies into their strategic management processes.

This gap is particularly evident in rapidly evolving technological environments, where organizations must continuously adapt to remain competitive. This research addresses these gaps by examining how digital innovation can be strategically leveraged to enhance the effectiveness of adaptive strategic management, ultimately contributing to organizations' long-term growth and industry leadership.

Research Design:

This study employs a mixed-methods research design, integrating both quantitative and qualitative approaches to gain a comprehensive understanding of how digital innovation influences Adaptive Strategic Management (ASM) and overall business growth. The quantitative component involves the use of a structured questionnaire administered to a purposive sample of 102 organizations that actively implement digital innovation tools and ASM practices across various industries, including both large enterprises and SMEs. This data is used to statistically test hypotheses and evaluate the measurable impact of digital innovation on organizational adaptability and performance.

Complementing this, the qualitative component comprises 30 semi-structured interviews with key organizational stakeholders. These interviews provide

deeper, contextual insights into the experiences and challenges encountered when integrating digital technologies into strategic management processes. This dual approach not only strengthens the reliability and depth of the findings but also ensures that both empirical trends and practical narratives are adequately captured and analyzed.

Findings and Discussion:

RO1: To examine the impact of adaptive strategic management on organizational business growth.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.377 ^a	.142	.134	.61915

a. Predictors: (Constant), ASM_Mean

Table 2: ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.360	1	6.360	16.590	.000 ^b
	Residual	38.334	100	.383		
	Total	44.694	101			

a. Dependent Variable: OBG_Mean

b. Predictors: (Constant), ASM_Mean

The findings indicate a moderate positive relationship between Adaptive Strategic Management (ASM) and Organizational Business Growth (OBG), with Adaptive Strategic Management explaining 14.2% of the variance in business growth (Adjusted R² = 13.4%). The model demonstrates a strong and statistically significant fit (F = 16.590, p < 0.05), confirming ASM as a meaningful predictor of organizational growth, though additional strategic and operational factors also influence OBG.

RO4: To explore the moderating effects of specific digital innovations (e.g., AI, big data analytics, IoT) on the relationship between adaptive strategic management and business growth.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.597 ^a	.357	.350	.53619

a. Predictors: (Constant), Moderating

Table 4: ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	15.944	1	15.944	55.459	.000 ^b
	Residual	28.749	100	.287		
	Total	44.694	101			
a. Dependent Variable: OBG_Mean						
b. Predictors: (Constant), Moderating						

The model demonstrates a **moderate-strong positive correlation** ($R = 0.597$) and **statistical significance** ($F = 55.459, p < 0.001$), confirming the moderating variable as a **meaningful predictor of Organizational Business Growth (OBG)**. The model explains **35.7% of the variance** in OBG (Adjusted $R^2 = 35.0\%$), while the remaining 65% is influenced by factors outside the model, indicating a strong moderating effect and improved fit when included.

RQ2: To investigate the role of digital innovation in enhancing organizational adaptability and responsiveness.

Here are two interview questions for thematic data analysis on the role of digital innovation in enhancing organizational adaptability and responsiveness:

IQ1: "Can you describe a specific instance where digital innovation in your organization directly contributed to improving its ability to adapt to changes in the market or industry?"

IQ2: "In your experience, how has implementing digital tools or technologies influenced decision-making processes and the organization's overall agility?"

For the interview questions based on 30 interviews, the following main themes and subthemes can be identified:

General Theme	Main Theme	Subtheme
Role of Digital Innovation	Enhanced Decision-Making and Agility	Faster Decision-Making Processes
		Improved Flexibility and Response Time
	Innovation in Products and Services	Customization of Offerings
		Faster Development of New Products
		Automation of Routine Tasks

General Theme	Main Theme	Subtheme
Influence of Digital Tools on Agility	Data-Driven Decision-Making	Increased Efficiency in Operations
		Personalization and Customer Insights
		Strengthened Customer Relationships
		Anticipating Market Changes
		Mitigating Risks
	Speed and Agility in Response to Market Changes	Access to Real-Time Information
		Evidence-Based Strategies
		Accelerated Response Times
	Enhanced Collaboration and Communication	Streamlined Decision-Making Processes
		Improved Cross-Functional Collaboration
		Real-Time Communication
		Better Risk Assessment
		Predictive Insights for Future Planning
	Risk Management and Predictive Analysis	Clearer Tracking of Decisions
		Improved Accountability

Fig 1: Thematic Diagram 1

RQ3: To analyze how integrating digital technologies into business processes influences the effectiveness of adaptive strategic management.

IQ1: "Can you provide examples of how digital technologies have been integrated into your business processes and how these integrations have impacted the organization's ability to adapt strategically to market changes?"

IQ2: "In your experience, how has using digital tools or technologies improved or hindered the effectiveness of

your organization's adaptive strategies in responding to internal or external challenges?

For the interview questions based on 30 interviews, the following main themes and subthemes can be identified:

General Theme	Main Theme	Subtheme
Digital Technologies in Business Processes	Process Automation and Efficiency	Automation of Routine Tasks
		Improved Process Efficiency
	Enhanced Data-Driven Decision Making	Real-Time Data Access
		Predictive Analytics for Market Trends
	Agility in Product and Service Innovation	Faster Product Development Cycles
		Customization of Services
	Improved Customer Engagement and Responsiveness	Real-Time Customer Feedback
		Enhanced Customer Experience
	Enhanced Collaboration and Communication	Cross-Departmental Collaboration
		Global Team Connectivity
Digital Tools' Influence on Adaptive Strategies	Improved Responsiveness to Market and Internal Changes	Faster Reaction to Market Shifts
		Better Internal Communication and Coordination
	Enhanced Data-Driven Strategic Decisions	Data-Driven Adaptation
		Predictive Capabilities
		Overreliance on Technology

General Theme	Main Theme	Subtheme
	Challenges and Limitations of Digital Integration	Resistance to Change
	Agility in Resource and Process Optimization	Streamlined Resource Allocation
		Process Flexibility and Efficiency
	Improved Customer-Centric Adaptation	Better Understanding of Customer Needs
		Enhanced Customer Feedback Loop

Fig 2: Thematic Diagram 2

RO5: To identify the key factors determining the successful implementation of digital innovation in adaptive strategic management.

IQ1: "What do you believe are the most important factors that have contributed to the successful implementation of digital innovations within your organization's strategic management processes?"

IQ2: "Can you share any challenges your organization faced while implementing digital innovations, and what factors helped overcome these challenges to ensure success?"

For the interview questions based on 30 interviews, the following main themes and subthemes can be identified:

General Theme	Main Theme	Subtheme
Key Success Factors for Digital Innovation	Strong Leadership and Vision	Leadership Commitment to Innovation
		Supportive Culture of Innovation
	Investment in Technology Infrastructure	Robust IT Systems
		Access to Cutting-Edge Technologies
		Comprehensive Training Programs

General Theme	Main Theme	Subtheme
Overcoming Challenges in Digital Implementation	Employee Training and Digital Literacy	Building Digital Competence
	Cross-Departmental Collaboration	Integration Across Business Functions
	Agile and Flexible Organizational Structure	Collaborative Decision-Making
		Adoption of Agile Methodologies
		Adaptable Workforce
	Resistance to Change	Employee Reluctance to Adopt New Technologies
		Overcoming Resistance through Training and Engagement
	Lack of Digital Skills and Competence	Skill Gaps Among Employees
		Addressing Skill Gaps through Upskilling Programs
	Integration Issues with Legacy Systems	Compatibility Problems with Existing Infrastructure
		Overcoming Integration Issues through IT Modernization
	High Implementation Costs	Budget Constraints
		Securing Executive Buy-In for Long-Term Investment
	Managing Change and Ensuring	Misalignment Between Technology and Business Strategy

General Theme	Main Theme	Subtheme
	Strategic Alignment	Ensuring Alignment through Clear Communication and Strategic Planning

Fig 3: Thematic Diagram 3

Implications:

The implications of this study underscore the necessity for organizations to integrate Adaptive Strategic Management (ASM) with digital innovations to drive sustainable business growth.

Given that ASM alone accounts for a moderate proportion of the variance in Organizational Business Growth (OBG), its effectiveness can be significantly enhanced by adopting digital technologies such as AI, big data analytics, and IoT.

These tools strengthen ASM's impact and enable businesses to respond more to market changes, make data-driven decisions, and improve operational efficiencies.

The positive moderating effect of digital innovations implies that organizations should prioritize digital literacy, foster an innovation-friendly culture, and ensure access to cutting-edge technologies to leverage ASM's potential fully.

The study also suggests that organizational adaptability and responsiveness—key outcomes of integrating ASM with digital innovations—are crucial for maintaining competitiveness in the face of technological disruptions.

For future research, these results open avenues to explore sector-specific impacts of digital transformation on ASM and further investigate how various digital tools uniquely contribute to strategic adaptability and growth in different organizational contexts.

Limitations of the Study:

1. Limited Scope of Digital Innovations: The study primarily focuses on a few digital tools (AI, big data analytics, IoT) and may not capture the full range of technological advancements that could influence ASM and business growth.

2. Potential for Rapid Technological Change: Given the fast pace of digital innovation, some findings may quickly become outdated as new technologies emerge, impacting the effectiveness of ASM strategies.

3. Lack of Control for External Factors: External factors such as economic conditions, regulatory changes, and market competition, which may also influence business growth, are not fully accounted for in the analysis.

4. Limited Generalizability: The findings may not be fully generalizable across all industries or geographic

regions, as the data is specific to certain sectors or organizational contexts.

5. Cross-sectional Design: The study uses a cross-sectional design, which captures data at a single point in time, limiting the ability to observe the long-term effects of ASM and digital innovation on business growth.

Recommendations:

Integrate ASM and Digital Transformation as Core Strategic Pillars: Organizations should establish ASM and digital innovation as interconnected pillars of their strategic planning. Rather than treating digital tools as mere operational enhancements, companies can elevate their role within ASM frameworks, enabling a more proactive and agile approach to market demands.

Develop Cross-functional Digital Literacy Programs: A novel recommendation arising from this study is the establishment of cross-functional digital literacy programs tailored to adaptive strategic management needs.

Adopt an Agile Digital Experimentation Model: Organizations are encouraged to implement an agile model for digital experimentation, allowing teams to test and adapt digital innovations within ASM processes rapidly.

Prioritize Customer-Centric Digital Strategies: Organizations should adopt customer-centric digital strategies to fully leverage the moderating effect of digital innovations on ASM.

Establish a “Digital-ASM Alignment Office”: A unique recommendation is to create a dedicated Digital-ASM Alignment Office or team tasked with ensuring synergy between ASM practices and digital innovation initiatives.

Invest in Predictive Analytics for Proactive Adaptation: Companies should prioritize predictive analytics as a part of their digital ASM strategy, allowing them to anticipate market changes, identify emerging risks, and make informed, forward-looking decisions.

Encourage Collaborative Innovation with External Partners: To maximize the impact of digital innovation on ASM, companies should seek partnerships with technology providers, research institutions, and startups

Future Study:

Future researchers can explore sector-specific impacts of digital innovation on ASM practices, identifying which digital tools drive effectiveness in industries like healthcare, finance, and manufacturing.

Longitudinal studies are recommended for future researchers to assess the long-term effects of ASM and digital transformation on business growth.

Expanding the range of digital innovations studied, such as blockchain, augmented reality (AR), and quantum computing, could provide future researchers with a broader understanding of emerging technologies' roles

Future studies should investigate the role of organizational culture as a mediator between digital innovation and ASM effectiveness.

Comparative research across various geographic regions could help future researchers understand how local factors, including regulatory environments and digital infrastructure, influence ASM and digital innovation effectiveness, offering globally relevant insights.

Future researchers can examine the influence of employee adaptability and digital skill development programs on ASM success in organizations undergoing digital transformation..

REFERENCES

1. Andriushchenko, K., Buriachenko, A., Rozhko, O., Lavruk, O., Skok, P., Hlushchenko, Y., Muzychka, Y., Slavina, N., Buchynska, O., & Kondarevych, V. (2020). Peculiarities of sustainable development of enterprises in the context of digital transformation. *Entrepreneurship and Sustainability Issues*. [https://doi.org/10.9770/jesi.2020.7.3\(53\)](https://doi.org/10.9770/jesi.2020.7.3(53))
2. Bickauske, D., Kromalcas, S., Simanaviciene, Z., Sergienko, L., & Baranovska, T. (2021). Digital transformation as a factor of ensuring country competitiveness: Moldova case analysis. *Independent Journal of Management & Production*, 12(6), 560-583.
3. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
4. Bryman, A., & Bell, E. (2015). *Business research methods* (4th ed.). Oxford University Press.
5. Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W.W. Norton & Company.
6. Bui, M. T., & Tran, T. T. H. (2023). The internal and external effect of environmental complexity on business responses: A PLS-SEM and artificial neural network approach. *Journal of Hospitality and Tourism Insights*.
7. Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
8. Delmar, F., Davidsson, P., & Gartner, W. B. (2003). Arriving at the high-growth firm. *Journal of Business Venturing*, 18(2), 189-216. [https://doi.org/10.1016/S0883-9026\(02\)00080-0](https://doi.org/10.1016/S0883-9026(02)00080-0)
9. Di Vaio, A., Palladino, R., Pezzi, A., & Kalisz, D. E. (2021). The role of digital innovation in knowledge management systems: A systematic literature review. *Journal of Business Research*, 123, 220-231.
10. Donaldson, L. (2001). *The contingency theory of organizations*. SAGE Publications.
11. Dutta, D. K., Gwebu, K. L., & Wang, J. (2015). Personal innovativeness in technology, related knowledge and skills, and technology adoption behavior of end users. *Information Systems Journal*, 25(3), 337-370. <https://doi.org/10.1111/isj.12071>
12. Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). SAGE Publications.
13. Hanna, N. (2018). A role for the state in the digital age. *Journal of Innovation and*

Entrepreneurship, 7(1), 5. <https://doi.org/10.1186/s13731-018-0086-3>

14. Khan, A., & Tao, M. (2022). Knowledge absorption capacity's efficacy to enhance innovation performance through big data analytics and digital platform capability. *Journal of Innovation & Knowledge*, 7(3), 100201.

15. Kohli, R., & Melville, N. P. (2019). Digital innovation: A review and synthesis. *Information Systems Journal*. <https://doi.org/10.1111/isj.12193>

16. Kotter, J. P. (1996). *Leading change*. Harvard Business Review Press.

17. Kupiek, M. (2021). *Digital leadership, agile change, and the emotional organization: Emotion as a success factor for digital transformation projects*. Springer Nature.

18. Kvale, S., & Brinkmann, S. (2015). *Interviews: Learning the craft of qualitative research interviewing* (3rd ed.). SAGE Publications.

19. Lawson, B., & Samson, D. (2001). Developing innovation capability in organizations: A dynamic capabilities approach. *International Journal of Innovation Management*, 5(3), 377-400. <https://doi.org/10.1142/S1363919601000427>

20. Markus, M. L., & Tanis, C. (2000). The enterprise systems experience - from adoption to success. In R. W. Zmud (Ed.), *Framing the domains of IT management: Projecting the future through the past* (pp. 173-207). Pinnaflex Educational Resources Inc.

21. Mattsson, L. G., & Andersson, P. (2019). Private-public interaction in public service innovation processes-business model challenges for a start-up EdTech firm. *Journal of Business & Industrial Marketing*, 34(5), 1106-1118.

22. McAfee, A., & Brynjolfsson, E. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W.W. Norton & Company.

23. Mishrif, A., & Khan, A. (2023). Technology adoption as survival strategy for small and medium enterprises during COVID-19. *Journal of Innovation and Entrepreneurship*, 12(1), 53.

24. Müller, J. M., Buliga, O., & Voigt, K. I. (2021). The role of absorptive capacity and innovation strategy in the design of industry 4.0 business models - A comparison between SMEs and large enterprises. *European Management Journal*, 39(3), 333-343.

25. Nambisan, S., Lyytinen, K., Majchrzak, A., & Song, M. (2017). Digital innovation management: Reinventing innovation management research in a digital world. *MIS Quarterly*, 41(1), 223-238. <https://doi.org/10.25300/MISQ/2017/41:1.03>

26. Nylén, D., & Holmström, J. (2015). Digital innovation strategy: A framework for diagnosing and improving digital product and service innovation. *Business Horizons*, 58(1), 57-67.

27. Pallant, J. (2016). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (6th ed.). McGraw-Hill Education.

28. Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.

29. Rahmanzadeh, S., Pishvae, M. S., & Govindan, K. (2023). Emergence of open supply chain management: The role of open innovation in the future smart industry using digital twin network. *Annals of Operations Research*, 329(1), 979-1007.

30. Ravichandran, T. (2018). Exploring the relationships between IT competence, innovation capacity, and organizational agility. *The Journal of Strategic Information Systems*, 27(1), 22-42. <https://doi.org/10.1016/j.jsis.2017.07.002>

31. Raut, R. D., Cheikhrouhou, N., & Kharat, M. G. (2018). Sustainability in the banking industry: A strategic multi-criterion analysis approach. *Business Strategy and the Environment*, 27(4), 547-568. <https://doi.org/10.1002/bse.2028>

32. Rêgo, B. S., Jayantilal, S., Ferreira, J. J., & Carayannis, E. G. (2022). Digital transformation and strategic management: A systematic review of the literature. *Journal of the Knowledge Economy*. <https://doi.org/10.1007/s13132-021-00853-3>

33. Rogers, E. M. (1962). *Diffusion of innovations*. Free Press.

34. Russ, M. (2021). Knowledge management for sustainable development in the era of continuously accelerating technological revolutions: A framework and models. *Sustainability*, 13(6), 3353.

35. Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson Education.

36. Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. Doubleday.

37. Teece, D. J., Peteraf, M. A., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review*, 58(4), 13-35. <https://doi.org/10.1525/cmr.2016.58.4.13>

38. Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z)

39. Weber, Y., & Tarba, S. Y. (2014). Strategic agility: A state of the art introduction to the special section on strategic agility. *California Management Review*, 56(3), 5-12. <https://doi.org/10.1525/cmr.2014.56.3.5>

40. Weking, J., Brosig, C., Böhm, M., Hein, A., & Krcmar, H. (2018). Business model innovation strategies for product service systems - An exploratory study in the manufacturing industry. In *Twenty-Sixth European Conference on Information Systems (ECIS 2018)*, Portsmouth, UK.

41. Wischnevsky, J. D., & Damanpour, F. (2006). Organizational transformation and performance: An examination of three perspectives. *Journal of Managerial Issues*, 18(1), 104-128.

42. Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.