DOI: https://doi.org/10.46793/6461-101.558J
Review Article

DIGITALIZATION AND THE IMPORTANCE OF TOP MANAGEMENT IN MODERN BUSINESS FROM THE PERSPECTIVE OF THE GREEN ECONOMY

Dražen Jovanović
European University Brčko District, Faculty of Technical Sciences, Brčko

e-mail: jdrazen13@gmail.com
https://orcid.org/0000-0002-1218-6231

Boško Ivanović
ORAO a.d. Bijeljina, Republic of Srpska

e-mail: bosivano@yahoo.com

Aleksandar Petrović
First School of Economics, Belgrade

e-mail: alpetrovic84@yahoo.com
https://orcid.org/0009-0007-9299-6130

Abstract: Modern business is characterized by profound transformations arising from the processes of digitalization and the global transition to the principles of the green economy. Together, these two phenomena redefine the way organizations create value, manage resources, and achieve competitive advantages. At the same time, these dimensions of modern development represent the foundation of a new management paradigm in which top management plays a key role in shaping sustainability strategies and technological adaptation.

The aim of this paper is to theoretically analyze and explore the relationship between digital transformation and the green economy, as well as to emphasize the role of top management in their integration. The paper demonstrates how digital technologies (AI, IoT, big data, blockchain) enable the implementation of green principles in corporate strategies. Special emphasis is placed on leadership competencies and decision-making models in the era of ecological and digital convergence.

Starting from the concept of sustainable development, this paper examines and analyzes the interrelationship between digitalization, managerial leadership, and the green economy, with particular focus on the DIM–ZET evaluation model – an integra-

ted framework linking digital maturity, innovation, and sustainable development. The model provides a comprehensive approach to measuring organizational readiness for digital–ecological transformation, making it a highly relevant tool for modern managers.

Key words: digitalization, top management, green economy, sustainable development, digital transformation, DIM–ZET model, change management.

INTRODUCTION

The Fourth Industrial Revolution (Industry 4.0) marked the beginning of a new era of business in which digital technologies merge with environmental imperatives. In such an environment, companies can no longer survive solely on the basis of profit logic – it is necessary to integrate sustainability, social responsibility, and technological innovation.

Modern business is characterized by two key megatrends: digitalization and the transition toward a green economy. These transformations are not merely technological but deeply managerial and strategic. The role of top management becomes crucial in integrating digital technologies with sustainability principles, thereby creating a new model of corporate responsibility and competitive advantage.

Digitalization brings efficiency, speed, and transparency, while the green economy promotes rational resource use and the reduction of negative environmental impact (OECD, 2021). Their synergy forms the basis of a new corporate identity in which top management plays a decisive role in shaping strategy and organizational culture. Organizations seeking competitiveness must understand that digital transformation is not an end in itself, but a tool for achieving sustainable development. Leadership in this context requires the ability to integrate technological and environmental goals into a unified value system (Porter & Heppelmann, 2019).

DIGITALIZATION AS A STRATEGIC PROCESS

Digitalization represents a comprehensive transformation of business through the application of digital technologies, including information and communication technologies (ICT), big data analytics, artificial intelligence (AI), the Internet of Things (IoT), and cloud computing. This process enables the optimization of business processes, more efficient decision-making, cost reduction, and increased competitiveness (Brynjolfsson & McAfee, 2014).

The modern business environment is characterized by globalization, accelerated technological change, and uncertainty, which highlights the strategic role of top management in digital transformation. Top managers create vision, define strategy, and shape organizational culture that supports innovation and change (Westerman, Bonnet & McAfee, 2014).

THEORETICAL FRAMEWORK OF DIGITALIZATION

Digitalization cannot be viewed solely as a technological process; it also entails cultural, organizational, and strategic changes. Its roots go back to the late 20th century, when information systems and the internet began transforming business practices (Castells, 2000). Today, digitalization includes the use of advanced technologies for automation, digital process monitoring, and real-time data analytics.

Porter and Heppelmann (2014) emphasize that digital technologies enable the emergence of "smart" products and services that transform competitive paradigms. The digital economy has become the dominant form of economic development, and organizations that fail to adopt digitalization risk losing competitiveness.

According to Schumpeter (1942), innovation drives economic transformation and creates conditions for the "creative destruction" of industrial models. In the digital context, innovation includes applying new technologies to product development, process optimization, and the creation of new business models.

DIGITAL TRANSFORMATION AND ORGANIZATIONAL CULTURE

Digital transformation goes beyond the mere introduction of technology – it reshapes business structures, business models, and organizational culture (Bharadwaj et al., 2013). Its core elements include automation, data integration, analytics, and digital customer experience. Strategically, digitalization becomes a platform for innovation and a source of sustainable competitive advantage.

According to Verhoef et al. (2021), digitalization encompasses three levels:

1. **Process digitalization** – automation and optimization of operational activities (ERP, CRM, IoT).
2. **Business model digitalization** – creation of new revenue streams through digital platforms.
3. **Cultural digital transformation** – changes in employees' mindset and behavior.

Digitalization shifts business logic from linear, hierarchical organizations toward agile and networked structures, where speed, knowledge, and innovation become key success factors (Davenport & Ronanki, 2018).

Digital transformation is primarily a human and cultural change. The introduction of new technologies without changing awareness and organizational culture often leads to failure (Kotter, 2012).

GREEN ECONOMY AS A SUSTAINABLE FRAMEWORK

The green economy promotes economic growth aligned with environmental principles. According to UNEP, it is defined as "an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP, 2021). This highlights the necessity of transitioning

from a linear to a circular business model, where resources are reused, recycled, and shared.

MANAGEMENT AND LEADERSHIP IN A DIGITAL–SUSTAINABLE CONTEXT

Top management is responsible for recognizing opportunities arising from digitalization and directing them toward achieving green economy goals. Managers simultaneously act as strategists, innovators, and promoters of corporate ethics. Drucker (2008) notes that "effective management is both a social function and a moral obligation," which gains new significance in the digital–green economy.

Top management must balance innovation and risk, ensuring business sustainability.

METHODOLOGICAL APPROACH

This paper is based on a theoretical-analytical and comparative methodology. The research analyzes key models of digital and green transformation in modern enterprises, as well as relevant case studies (McKinsey, 2023; European Commission, 2022). Special attention is given to the role of top management in implementing digital and environmental innovations through three dimensions:

1. Strategic orientation – integration of digital and environmental goals
2. Change culture – development of organizational readiness for innovation
3. Leadership style – participative and transformational leadership

Đukić et al. (2024) emphasize that their interconnection and interaction form the basis for successful managerial activity and strategic goal achievement.

SYNERGY OF DIGITALIZATION AND THE GREEN ECONOMY

Digital technologies provide the operational infrastructure for implementing the green agenda. The use of IoT sensors, big data analytics, and AI systems enables resource consumption monitoring, logistics optimization, and CO_2 emission reduction.

When combined with circular economy principles, the result is a new business model – the **Digital Sustainable Enterprise**.

Table 1. Model of the Digital Sustainable Enterprise

Digital Technology	Environmental Application	Expected Effects
Internet of Things (IoT)	Energy consumption monitoring and resource management	Cost and waste reduction
Big Data	Analysis of consumption patterns and environmental impacts	Precise planning of sustainable operations
Blockchain	Transparent supply chain tracking	Increased accountability and consumer trust
Artificial Intelligence	Predictive maintenance and energy efficiency	Higher productivity and reduced emissions

Thus, digitalization becomes the engine of environmental efficiency, while the green economy provides the ethical and developmental framework for digital innovation.

THE ROLE OF TOP MANAGEMENT IN TRANSFORMATION

Top management plays a decisive role in shaping the digital–green transition. Its responsibilities include:

- **Strategic planning and leadership** – defining a sustainable digital vision and embedding it into corporate strategy.
- **Change management** – creating a culture that supports innovation and environmental responsibility (Kotter, 1996).
- **Organizational adaptation** – developing agile structures that enable rapid integration of technology and environmental standards (Schein, 2010).
- **Communication and education** – training employees and stakeholders on the importance of digital and green transition.
- **Evaluation and control** – measuring performance through digital KPIs (energy consumption, CO_2 emissions, recycling rates).
- **Competency development** – continuous education in digital and green skills (Bharadwaj et al., 2013).
- **Ethics and corporate governance** – balancing profit, people, and planet (triple bottom line; Elkington, 2018).

DIM–ZET EVALUATION MODEL: THEORETICAL FRAMEWORK

The DIM–ZET evaluation model represents a contemporary framework for assessing the integration of digital and green transformation within organizations. It combines digital capabilities with environmental performance, enabling a holistic assessment of organizational readiness for change.

DIM (Digital Innovation Management) evaluates digital maturity through:

- **D – Digitalization**
- **I – Innovation**
- **M – Management**

ZET (Green Transformation and Ecological Technology) assesses sustainability through:

- **Z – Green orientation**
- **E – Economic efficiency**
- **T – Transformation**

The combined evaluation provides a **Sustainable Digital Maturity Index (SDMI)**, linking technological efficiency with environmental impact.

STRATEGIC IMPLICATIONS AND CONCLUSION

Digitalization and the green economy represent the core pillars of modern corporate development. Their integration creates a new management paradigm in which technological efficiency serves environmental and social responsibility. Top management, as the bearer of vision, must establish a balance between profit, innovation, and sustainability.

Digital transformation without a green economy leads to technological progress without purpose, while a green economy without digitalization remains an ideal without implementation mechanisms. Their integration forms the foundation of future management and a new, responsible economy of the 21st century.

REFERENCES

1. Bharadwaj, A, El Sawy, O, A, Pavlou, P, A, & Venkatraman, N, (2013). *Digital Business Strategy: Toward a Next Generation of Insights*. MIS Quarterly, 37(2), 471–482.
2. Bharadwaj, A., El Sawy, O. A, Pavlou, P. A., & Venkatraman, N. (2013). Digital business strategy: Toward a next generation of insights. *MIS Quarterly, 37*(2), 471–482.
3. Davenport, T, H, & Harris, J. G. (2007). *Competing on analytics: The new science of winning*. Harvard Business School Press.
4. Davenport, T, H, & Ronanki, R, (2018). *Artificial intelligence for the real world*. *Harvard Business Review*, 96(1), 108–116.
5. Drucker, P, F, (2008). *Management: Tasks, Responsibilities, Practices*. HarperCollins.
6. Đukić, S, Jovanović, D, Karlica, B, D, (2024). Sportski menadžment i komercijalizacija u sportu, Menadžment u sportu, Fakultet za menadžment u sportu, Alfa BK Univerzitet, Vol. 15, No2, Beograd.
7. Elkington, J, (2018). *25 Years of Triple Bottom Line: A Call for Re-evaluation*. *Harvard Business Review*.

8. European Commission, (2022). *Digital and Green Transitions in the European Economy*. Brussels: EC Publications.
9. European Commission, (2022). *Digital Economy and Society Index (DESI) 2022*. Publications Office of the EU.
10. Kotter, J, P, (2021). *Change: How Organizations Achieve Hard-to-Imagine Results in Uncertain Times*. Harvard Business Press.
11. Kotter, J, P, (1996). *Leading change*. Harvard Business Review Press.
12. Kotter, J, P, (2012). *Leading change*. Harvard Business Review Press.
13. McKinsey & Company, (2023). *The Green Digital Revolution: A Pathway to Sustainable Growth*. New York: McKinseAy Insights.
14. OECD, (2021). *Green Growth and Digital Transformation*. Paris: OECD Publishing.
15. Porter, M, E, & Heppelman, J, E, (2014). How smart, connected products are transforming competition. *Harvard Business Review, 92*(11), 64–88.
16. Porter, M, E, & Heppelmann, J, E, (2019). *How Smart, Connected Products Are Transforming Companies*. *Harvard Business Review*.
17. Schallmo, D, R, A, Williams, C, A, & Boardman, L, (2019). *Digital Transformation of Business Models: Best Practice, Enablers, and Roadmaps*. Springer.
18. Schein, E, H, (2010). *Organizational culture and leadership* (4th ed.). Jossey-Bass.
19. Schumpeter, J, A, (1942). *Capitalism, socialism and democracy*. Harper & Brothers.
20. United Nations Development Programme (UNDP), (2020). *Sustainable Development Goals Report*, New York: UNDP.
21. United Nations Environment Programme (UNEP), (2021). *Green Economy Progress Report*. Geneva: UNEP.
22. Verhoef, P, C, Broekhuizen, T, Bart, Y, Bhattacharya, A, Dong, J, Q, Fabian, N, & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889–901.
23. Westerman, G, Bonnet, D, & McAfee, A, (2014). *Leading digital: Turning technology into business transformation*, Harvard Business Review Press.