

Digitalization of Quality Management Practices in the Hospitality Industry as a Foundation for the Sustainable Development of the Regional Tourism Sector

Bohdan-Petro Koshovyi¹, Marcin Kubasiak²

Опубліковано	Секція	УДК
30.08.2025	Економіка	338.48:005.336.3:004.9 (477)

DOI: <https://doi.org/10.5281/zenodo.17390794>

Annotation. The article examines the process of digitalization of quality management practices in the hospitality industry as a strategic factor in ensuring the sustainable development of the regional tourism sector. It is substantiated that the digital transformation of quality management goes beyond technological modernization and shapes a new managerial paradigm in which quality is interpreted as a dynamic process of analytical forecasting, transparency, and accountability. It has been established that digital tools – CRM and ERP systems, big data analytics, forecasting algorithms, and automated monitoring panels – transform quality management into an integrated decision-making system that ensures a balance between efficiency, stability, and trust.

It has been proven that digitalization contributes to the formation of a new managerial culture in the hospitality sector based on the principles of anticipation, analytical interaction, and collective responsibility. The study clarifies the role of digital platforms in providing institutional coordination among businesses, regional authorities, and communities, thereby creating conditions for improved accountability and partnership governance. It has been revealed that the socio-economic effect of digital practices is manifested in increased productivity, resource optimization, the expansion of professional competencies, and the strengthening of social cohesion.

The research emphasizes that the digital logic of quality management forms social trust as a key intangible asset of the region. Digital technologies ensure the structural modernization of the tourism market, transform consumer behavior, and promote a new service ethics oriented toward transparency and resilience. A conceptual model is proposed in which quality functions as an integral category of sustainable development, combining technological flexibility, managerial adaptability, and social responsibility.

The obtained results have both theoretical and practical significance for the development of regional strategies for digital transformation of the hospitality industry, the construction of quality monitoring systems, and the implementation of analytical forecasting mechanisms in management processes.

Keywords: digitalization, quality management, hospitality industry, regional development, sustainable tourism, digital governance, social trust, institutional coordination.

¹ Doctor of Economics, Associate Professor, Associate Professor of the Department of Lviv University of Business and Law, <https://orcid.org/0000-0001-8550-0028>

² mgr inż., Wyższa Szkoła Turystyki i Ekologii (The University College of Tourism and Ecology) Zamkowa 1, 34-200 Sucha Beskidzka, ORCID: <https://orcid.org/0000-0002-4306-3605>

Цифровізація практик менеджменту якості у індустрії гостинності як запорука сталого розвитку туристичної галузі регіону

Анотація. У статті досліджено процес цифровізації практик менеджменту якості в індустрії гостинності як стратегічний чинник сталого розвитку туристичної галузі регіону. Обґрунтовано, що цифрова трансформація управління якістю виходить за межі технологічної модернізації й формує нову управлінську парадигму, у якій якість трактується як динамічний процес аналітичного прогнозування, прозорості й відповідальності. Встановлено, що цифрові інструменти – системи CRM, ERP, big data-аналітика, алгоритми прогнозування та автоматизовані панелі моніторингу – перетворюють управління якістю на інтегровану систему прийняття рішень, яка забезпечує баланс між ефективністю, стабільністю та довірою.

Доведено, що цифровізація сприяє формуванню нової управлінської культури у сфері гостинності, заснованої на принципах передбачення, аналітичної взаємодії та колективної відповідальності. У роботі уточнено роль цифрових платформ у забезпеченні інституційної координації між бізнесом, регіональною владою й громадами, що створює умови для підвищення підзвітності та партнерського управління. Виявлено, що соціоекономічний ефект цифрових практик проявляється у зростанні продуктивності, оптимізації ресурсів, розширенні професійних компетенцій персоналу й зміцненні соціальної згуртованості.

Акцентовано, що цифрова логіка управління якістю формує соціальну довіру як ключовий нематеріальний актив регіону. Цифрові технології забезпечують структурну модернізацію туристичного ринку, змінюють поведінкову економіку споживача та сприяють формуванню нової етики сервісу, зорієнтованої на прозорість і стійкість. Запропоновано концептуальну модель, у якій якість виступає інтегральною категорією сталого розвитку, що поєднує технологічну гнучкість, управлінську адаптивність і соціальну відповідальність.

Отримані результати мають теоретичне й практичне значення для розроблення регіональних стратегій цифрової трансформації індустрії гостинності, побудови систем моніторингу якості сервісу та впровадження аналітичних механізмів прогнозування у процеси управління.

Ключові слова: цифровізація, менеджмент якості, індустрія гостинності, регіональний розвиток, сталий туризм, цифрове управління, соціальна довіра, інституційна координація.

Introduction

The modern paradigm of tourism development is defined by profound digital transformation encompassing all levels of governance – from local entrepreneurship to national policy-making. The hospitality industry, as the most sensitive segment of the tourism market, has become a domain where the quality of service represents not only a measure of operational excellence but also a criterion of regional economic resilience. Under these circumstances, the digitalization of quality management practices emerges as a comprehensive strategy for enhancing competitiveness, strengthening social trust, and consolidating reputational capital [1- 3].

The relevance of this research stems from the necessity to conceptualize a new managerial logic in which quality functions as a process of continuous improvement supported by data, algorithms, and analytical platforms. In the context of Ukraine's post-crisis economic recovery, where regional development plays a decisive role in stabilizing the national economic space, the digitalization of quality management in the hospitality industry has become one of the key directions of regional modernization policy [4-5].

The purpose of the article is to examine the theoretical and methodological foundations of digitalizing quality management practices in the hospitality industry and to justify its role as a systemic factor in the sustainable development of the regional tourism sector. To achieve this goal, a methodological framework combining institutional, system-analytical, and managerial-economic approaches was applied, allowing to reveal the mechanisms of digital transformation through the interaction of technological, social, and managerial components.

Results

The digital transformation of the hospitality industry has become a key factor in regional development, integrating managerial innovation, spatial strategy, and social responsibility. The transition to digital quality management models establishes a systemic foundation for regional competitiveness and defines a new dynamic within the tourism economy. Hospitality in its digital dimension becomes a medium for cultivating an economic culture in which control, standards, and trust function as interconnected elements of an analytical cycle [1; 3].

The modern regional tourism economy operates amid growing customer expectations and declining tolerance for service deficiencies. In this environment, digitalization acts as a stabilizing mechanism that ensures forecasting accuracy, reduces managerial risks, and strengthens accountability for service quality as a component of managerial culture. Digital tools create a space of adaptive governance where quality evolves from a result of verification into the basis of strategic planning. Reconceptualizing quality as a strategic resource transforms the paradigm of regional development. In a competitive context where the tourism industry determines territorial resilience, quality management becomes a criterion of investment attractiveness and a guarantor of reputational stability. Digital technologies in this regard perform an integrative function – aligning the interests of businesses, authorities, and consumers while creating an infrastructure of transparency and feedback [8].

Digitalization of quality management in hospitality signifies a shift in managerial consciousness. It fosters a new logic of decision-making, promotes analytical competence, and redefines service as a component of regional security. This transformation opens opportunities for sustainable development that unite technological modernization, economic efficiency, and social responsibility [4].

Understanding quality as a managerial category in hospitality requires rejecting its treatment as a mere formal standard or procedural checklist. In contemporary economic logic, quality represents a process of continuous decision-making that combines analytical evaluation of data, strategic flexibility, and accountability for long-term outcomes. Digital technologies here serve as intellectual intermediaries between the manager, the client, and the operational environment shaping managerial responses.

In digital management systems, quality acquires the features of a systemic resource that establishes trust among economic actors. Monitoring algorithms, analytical dashboards, and integrated CRM platforms allow for real-time oversight and transform evaluation into a predictive mechanism. Management attention shifts from reactive correction to proactive risk prevention, improving service efficiency and resource use [7].

Within the hospitality sector, quality becomes a structured form of interaction. Digital instruments consolidate information from multiple sources – from customer reviews to logistical indicators – forming a unified analytical base for management strategies. The digital logic of governance simultaneously reshapes the professional identity of managers, whose competence now lies in interpreting data, structuring information flows, and designing predictive policies [11].

Digital technologies thus redefine the architecture of managerial culture in hospitality, adding analytical depth and dynamic coherence. Whereas traditional quality management relied primarily on regulatory control, contemporary approaches emphasize anticipation, forecasting, and adaptability. As a highly interactive environment, the hospitality industry

demands not only technological innovation but also cognitive renewal, where every customer interaction and operational signal becomes a data point shaping strategic decision-making [9].

A defining feature of the new managerial culture is the algorithmization of responsibility. Data transparency creates conditions for collective oversight, where quality is evaluated not only by internal audits but also by external users. This transparency fosters a culture of mutual trust in which every actor in the hospitality market recognizes their share of responsibility for maintaining common standards. The manager ceases to act merely as a controller and becomes a coordinator of intellectual flows that balance the interests of businesses, employees, and clients [6]. As a result, the digital architecture of managerial culture becomes the foundation of resilience in the hospitality industry. It allows the integration of social, economic, and technological dimensions of development into a coherent system where effectiveness is measured not by the number of regulations but by the level of trust and adaptability [9].

The institutional frameworks of digital governance in hospitality form the basis of interaction among businesses, regional authorities, and consumers, creating an environment of trust, openness, and accountability. Digitalization structurally transforms the principles of governance, shifting them from a vertical to a horizontal logic, where analytical integration becomes the decisive factor. Integration turns data into a fundamental resource for decision-making that reflects not only economic indicators but also social and behavioral dimensions of service quality [10].

Institutional coordination of digital processes in the hospitality sector requires unified data standards, interoperable digital platforms, and a regulatory environment that maintains balance between business innovation and governmental accountability. By implementing digital quality monitoring systems, regional administrations gain a tool of partnership rather than control – the ability to visualize real-time service dynamics, respond rapidly to demand fluctuations, and coordinate development policy in line with local needs [4; 10].

An important element of institutional digital governance is the creation of joint analytical hubs that consolidate data from enterprises, public institutions, educational centers, and tourism associations. These hubs function as intellectual centers for strategic planning, forecasting, and quality standardization. The institutional mechanisms of digital governance thus establish a new logic of partnership between the state and business, where service quality gains the status of a public asset and becomes a driver of social trust and sustainable development. The socio-economic effect of digitalizing quality management practices in hospitality manifests through the transformation of the tourism market's development logic. Digital tools enable rational resource distribution, reduction of transaction costs, and enhancement of trust among market participants. Automated quality management systems identify demand patterns, detect service bottlenecks, and create models of adaptation to seasonal or behavioral shifts. The economic effect lies in the stabilization of financial flows, increased labor efficiency, and the growth of investment attractiveness within the sector [8]. Simultaneously, digitalization contributes to the emergence of a new employment structure in which analytical, technical, and service-oriented competencies gain priority. In regional contexts, this fosters educational initiatives in digital hospitality management and generates new positions in data analysis, marketing analytics, and automated control [5; 9].

Another significant outcome of digital transformation is the change in the behavioral economy of tourists. The transparency of information and the speed of communication shape a new consumer culture based on trust, brand reputation, and ethical business conduct. This fosters long-term client loyalty – a cornerstone of industry stability. At the same time, digital monitoring systems enable local communities to assess the ecological, social, and economic impacts of tourism, ensuring responsible resource management [7; 8].

Consequently, the digitalization of quality management practices in hospitality creates a synergistic socio-economic effect encompassing productivity growth, optimization of labor processes, human capital development, and the strengthening of trust as the foundation of

sustainable development. Regional economies benefit from increased revenues and social stability, ensuring the transition from an extensive use of tourism potential to an innovative model of sustainable growth [6].

The generalization of these findings allows for conceptualizing digital quality management in hospitality as a multi-level system, where each structural component generates a specific type of impact on regional tourism development. Its logic unfolds in a networked manner – from conceptual understanding of quality to the formation of sustainable socio-economic and ecological outcomes. To reflect this multidimensionality, an analytical table is presented summarizing the functional, institutional, economic, and behavioral aspects of digital quality governance as a strategic system for regional tourism development (Table 1).

Table 1

Digitalization of Quality Management Practices in the Hospitality Industry as a Foundation for the Sustainable Development of the Regional Tourism Sector

Analytical Level	Essential Characteristic	Functional Manifestation	Regional Effect and Long-Term Consequences
1. Conceptual Level: Quality as a Strategic Category	In the digital economy, quality is interpreted as an integrative process of guided service improvement based on data and standardized interaction algorithms.	The introduction of digital quality systems shifts management from the control stage to the forecasting stage, where analytical models become the foundation of decision-making.	A culture of trust in service as a social asset is formed; consumer satisfaction and the region's reputational capital increase.
2. Technological Level: Architecture of Digital Tools	Digital platforms (CRM, ERP, AI analytics, big data) become the basic infrastructure for modeling, monitoring, and forecasting quality.	Algorithms make it possible to track consumer behavioral patterns, optimize operational costs, and automate control.	Regions gain stability through precise managerial decisions, reduced service risks, and predictable tourist flows.
3. Institutional Level: Managerial Coordination and Public-Private Partnership	A multi-level coordination system is established – from local business associations to national digital quality hubs.	Data are consolidated among government, business, and communities, creating an open analytical environment.	Transparency and accountability increase, strengthening the partnership logic of regional tourism policy.
4. Economic Level: Efficiency and Productivity	Digital models reduce transaction costs, accelerate managerial responses, and minimize losses.	Automated quality control mechanisms transform feedback into a planning factor.	Profitability of enterprises grows, employment balance improves, and investment activity in hospitality intensifies.
5. Social Level: Changing Roles and Competencies	The new-generation manager acts as an analyst and	New professional profiles emerge: service data analyst, digital coordinator,	Regions experience workforce modernization, a higher share of well-

	coordinator of digital processes.	and guest experience specialist.	paid employment, and increased social mobility.
6. Behavioral Level: Ethics of Consumption and Reputational Capital	Service transparency fosters ethical interaction between clients and businesses, where trust becomes a form of value.	Reviews, ratings, and verified data create an ecosystem of mutual responsibility.	Tourists choose regions with digital quality guarantees, enhancing territorial competitiveness.
7. Ecologically Sustainable Level: Digitalization as a Tool of Harmonized Development	Digital systems enable monitoring of ecosystem loads, flow management, and mitigation of mass tourism's negative effects.	The integration of ecological indicators into quality management becomes a standard practice.	A sustainable tourism model emerges in which economic efficiency is balanced with environmental responsibility and social cohesion.

Thus, the digitalization of quality management practices goes far beyond the introduction of new technologies; it establishes a new managerial philosophy – one of predictability, analytical transparency, and shared responsibility. Its primary value lies in the capacity to integrate economic efficiency with social well-being and environmental balance. As a result, the regional tourism sector achieves not merely quantitative growth but a new model of resilience, where quality becomes an indicator of human potential development, technological maturity, and reputational trust. The digital culture of quality management shapes a strategic horizon in which tourism transforms into a mechanism for regional economic renewal and the affirmation of international subjectivity [3; 7].

Conclusions

The study has established that the digitalization of quality management practices in the hospitality sector is a systemic driver of transformation within regional tourism economies. It determines not only the technological direction of industry modernization but also a new managerial logic in which quality is viewed as a strategic resource of development. It has been substantiated that digital management tools create an integrated environment of interaction among business, government, and consumers, ensuring process transparency, accountability of results, and the formation of trust as a fundamental intangible asset of the region.

It has been demonstrated that digital transformation of quality management forms a fundamentally new managerial culture in which control is replaced by analytical foresight, and evaluation systems evolve into predictive mechanisms. Such a model ensures enhanced service efficiency, risk reduction, and greater investment attractiveness of the tourism industry. It has been shown that digital quality management platforms stimulate professional modernization of the labor market, increase demand for analytical competencies, and create favorable conditions for human capital development as the basis of sustainable growth.

It has been clarified that the institutional frameworks of digital governance establish a space of public-private partnership in which quality acquires the status of a public good, while regional policy is directed toward harmonizing technological, economic, and social interests. The socio-economic effects of digitalization are manifested in the stabilization of financial flows, reduction of transaction costs, and strengthening of trust as a determinant of long-term competitiveness.

It is therefore concluded that the digitalization of quality management in the hospitality industry acts as a catalyst for sustainable development of the regional tourism sector. It ensures

a transition from fragmented management practices to a systemic model of predictive adaptability, where quality functions as a universal category of economic, social, and environmental equilibrium. Further research should focus on developing models of digital sustainability monitoring, assessing the impact of algorithmization on regional socio-economic indicators, and formulating ethical standards for digital interaction in hospitality management.

References

1. Вецепура, Н., & Земліна, Ю. (2021). Управління конкурентними перевагами підприємств індустрії гостинності та туризму в сучасних умовах. Економіка та суспільство, (33). <https://economyandsociety.in.ua/index.php/journal/article/download/953/911>
2. Філіпчук, С. (2025). Інноваційний розвиток індустрії гостинності України в умовах невизначеності. Економіка та суспільство, (77). <https://economyandsociety.in.ua/index.php/journal/article/download/6352/6295>
3. Chernega, O. M. (2023). Цифровізація як репутаційна тактика в управлінні туристичної дестинацією. Economics: Time Realities, 67(3). <https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=22262172&AN=171790525&h=SmXXtrL1%2By6gbA9GWSH6uyd%2FMZQt5sbK1ouuELSY8t6mcA5V5DXNWcdTM3Mn5hDiHWhP3xa3GIACZ7WEdR4Kg%3D%3D&crl=c>
4. Гуцалюк, О. М., Бондар, Ю. А., Семенюк, Л. Л., & Хачатурян, О. С. (2025). Євроінтеграційні підходи до екокультурної трансформації та інфраструктурного вдосконалення індустрії гостинності в концепції розвитку сервісної економіки. <https://nasplib.isoftware.kiev.ua/bitstreams/6da4c61d-ad81-45fe-9769-0278af8b35a8/download>
5. Аксьонова, Н., & Мірко, Н. (2025). Державна підтримка популяризації локального туризму: як заохотити мандрівників досліджувати рідну країну. Електронне наукове фахове видання "Соціально-економічні проблеми і держава", (1 (32)), 103-112. <https://elartu.tntu.edu.ua/bitstream/lib/49591/1/25anvthc.pdf>
6. Holovchuk, Y., Dybchuk, L., & Tsilnyk, O. (2025). The Concept of Regional Tourism Systems in the Context of Sustainable Development. <https://dspace.vnmu.edu.ua/bitstream/handle/123456789/9222/WoS%202025.pdf?sequence=1>
7. Zeqiri, A., Ben Youssef, A., & Maherzi Zahar, T. (2025). The Role of digital tourism platforms in advancing sustainable development goals in the Industry 4.0 era. Sustainability, 17(8), 3482. <https://www.mdpi.com/2071-1050/17/8/3482>
8. El Archi, Y., Benbba, B., Kabil, M., & Dávid, L. D. (2023). Digital technologies for sustainable tourism destinations: State of the art and research agenda. Administrative Sciences, 13(8), 184. <https://www.mdpi.com/2076-3387/13/8/184>
9. Socratous, M., Thrasyvoulou, G., & Stylianou, C. (2025). Technology-driven sustainable tourism destinations: perspectives from key policymakers. Worldwide Hospitality and Tourism Themes, 17(1), 77-90. <https://www.emerald.com/insight/content/doi/10.1108/WHATT-12-2024-0298/full/html>
10. Huzar, U., Nazar, M., & Kobryn, A. (2024). Institutional Aspects Of Transformation Processes In The Hospitality Industry. Baltic Journal of Economic Studies, 10(1), 54-62. <http://www.baltijapublishing.lv/index.php/issue/article/view/2311>
11. Wang, H. R., Fang, Y., Shao, J. P., & Li, C. (2025). Digital Governance Driving Tourism Development: The Mediating Role of Tourism Resources and the Moderating Effect of Provincial Economic Comprehensive Competitiveness. Sustainability, 17(9), 3831. <https://www.mdpi.com/2071-1050/17/9/3831>