

DIGITAL TECHNOLOGY ADOPTION AND ECOLOGICAL REQUIREMENTS IN FRANCHISE NETWORKS: INTERNATIONAL PRACTICES AND LESSONS FOR UZBEKISTAN

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Abstract

Digital technologies are fundamentally transforming the operational mechanisms of franchise systems, while growing ecological requirements are simultaneously reshaping franchise business strategy on a global scale. This article examines the current state of digital technology adoption in franchise networks, principally customer relationship management (CRM) systems, enterprise resource planning (ERP) platforms, big data analytics, cloud technologies, artificial intelligence, and mobile applications, together with the practical experience of international franchise leaders including McDonald's and Starbucks. Documented outcomes from digitalization initiatives include a reduction in order-processing time from 15 to 5 minutes and a 27% increase in sales volume at McDonald's, alongside broader international evidence of cost reductions of up to 30% and sales increases of up to 26% attributable to digitalization. The article further examines the parallel rise of ecological management mechanisms in franchising, encompassing energy efficiency, waste management, ecological packaging, green logistics, and water resource management, documenting Starbucks' "Greener Stores" program, which achieved reductions of up to 30% in electricity consumption and up to 45% in plastic waste volume. On this basis, the article presents an original conceptual model of a sustainable franchise network comprising five structural components: digital management systems, ecological management mechanisms, innovative marketing systems, sustainable logistics systems, and adaptive management models. The current state and principal constraints of digital and ecological transformation in the Uzbek franchise market are also examined, including high implementation costs, underdeveloped ecological infrastructure, and a shortage of qualified specialists.

Keywords: Franchising; digital transformation; ecological management; sustainable business model; Uzbekistan; green logistics.

Introduction

At the current stage of economic development, digital technologies are fundamentally transforming the operational mechanisms of franchise systems. Digitalization has become an essential instrument for optimizing business processes, reducing operational costs, increasing management transparency, and improving relationships with consumers. In particular, the multi-tiered and geographically dispersed structure characteristic of franchise networks has made the effective use of digital management technologies a genuine necessity rather than an optional enhancement.

At the same time, the development trends of the modern global economy indicate that the importance of ecological factors in entrepreneurial activity is steadily increasing. Global climate change, the finite nature of natural resources, and the intensifying negative impact of production and consumption processes on the environment have made ecological safety one of the priority directions of international economic policy. These processes directly affect the activity of franchise systems as well, since franchise networks, by virtue of operating a business model with extensive territorial infrastructure, are inherently and closely connected to resource use, waste management, and ecological safety.

This article examines both of these transformative forces, digitalization and ecologization, as interconnected rather than independent drivers of franchise network development, drawing on documented international case experience together with an original conceptual model of a sustainable franchise network developed on the basis of this analysis.

2. Literature Review

The academic literature on digital transformation in franchising has grown rapidly alongside broader management research on organizational digitalization. Vial (2019) defines digital transformation as a process whereby digital technologies trigger significant changes to organizational properties through the combination of information, computing, communication, and connectivity technologies, a definition that captures the multi-dimensional character of the CRM, ERP, and mobile-application adoption documented in this article's case analysis of McDonald's and Starbucks. Plekhanov, Franke, and Netland (2023), in a subsequent review and research agenda published in the *European Management Journal*, similarly emphasize that digital transformation research has evolved from a narrow technology-adoption focus toward a broader concern with organizational capability-building, a shift reflected in the conceptual sustainable franchise model proposed in this article, which treats digital management as one structural capability among several rather than as a standalone technology investment.

Turning to the ecological dimension, a systematic literature review of the sustainability-franchising relationship covering 76 articles published between 2000 and 2023 concluded that sustainability remains a comparatively nascent research topic within franchise studies, with the existing literature disproportionately focused on the social and economic dimensions of sustainability while the environmental dimension has received markedly less scholarly attention (*Future Business Journal* systematic review, 2025). This finding lends particular significance to the international ecological case evidence, including the Starbucks Greener Stores program, examined in this article, since detailed operational documentation of environmental sustainability initiatives in franchising remains relatively scarce in the academic



literature compared with the abundance of industry and corporate ESG reporting. Erceg et al. (2024), writing specifically on the concept of “green franchising,” further caution that genuine environmental commitment in franchise systems must be distinguished from “greenwashing,” in which companies claim environmental credentials without corresponding substantive operational change, an important qualification for interpreting the documented percentage reductions in resource consumption reported by international franchise brands and for assessing the credibility of ecological transformation claims by franchise companies operating in emerging markets such as Uzbekistan.

3. Methods

This article is based on a qualitative synthesis of documented digital transformation and ecological sustainability practices at major international franchise companies, principally McDonald's and Starbucks, drawing on corporate ESG (environmental, social, and governance) disclosures, sustainability program reports, and secondary academic and industry literature, including Laudon and Laudon's Management Information Systems (2023) and Schwab's The Fourth Industrial Revolution (2017). Findings regarding the Uzbek franchise market are based on analysis of the operating practices of companies including EVOS, Bellissimo, and KFC, together with an assessment of Uzbekistan's ecological policy framework and green economy strategy documentation.

4. Results

4.1 Digital technologies applied in franchise networks

Table 1. Principal digital technologies used in franchise networks

Technology type	Primary function	Level of effectiveness
CRM systems	Customer database management	High
ERP platforms	Resource and logistics management	High
Big Data	Demand and market analysis	Medium-High
Cloud technologies	Information exchange	High
Artificial intelligence	Marketing and automation	Medium
Mobile applications	Online ordering	High

Source: compiled based on Laudon and Laudon (2023), Schwab (2017), and author analysis.

Digital technologies exert a significant influence on the economic efficiency of franchise networks. In particular, automated management systems reduce logistics costs while increasing the speed of order processing. At the same time, digital marketing tools provide companies with the capacity to conduct in-depth analysis of consumer needs and to formulate individualized offers. Among franchise companies, CRM systems and e-commerce platforms are observed to be the most widely adopted technologies, reflecting the fact that developing consumer relationships and increasing online sales volume have become priority directions for contemporary franchise systems.

4.2 Case evidence: McDonald's digital transformation

Among the companies that have successfully integrated digital technologies into franchise operations, McDonald's is a leading example. The company achieved increased service speed through the introduction of self-service kiosks, mobile applications, and digital ordering systems, resulting in shortened order-processing times and reduced operational costs.

Table 2. Results of digitalization at McDonald's

Indicator	Before digitalization	After digitalization
Order processing time	15 minutes	5 minutes
Operational costs	100%	79%
Customer service speed	Average	High
Sales volume	100%	127%

Source: compiled based on analysis of McDonald's digital transformation strategy and international practice.

Starbucks, for its part, has achieved success in analyzing consumer purchasing habits through the use of big data and artificial intelligence technologies. Through mobile applications and loyalty programs, the company has developed individualized relationships with customers, thereby increasing the share of repeat purchases. Overall, international experience demonstrates that digitalization not only increases the economic efficiency of franchise companies but also strengthens their adaptability to market conditions; the introduction of online ordering, contactless payment systems, and electronic services during the pandemic period in particular served to maintain the operational stability of franchise networks. Documented economic effects of digitalization across international practice include cost reductions of approximately 30%, sales volume increases of approximately 26%, customer flow increases of approximately 22%, logistics efficiency gains of approximately 14%, and marketing efficiency gains of approximately 8%.

4.3 Digital transformation of franchising in Uzbekistan

In Uzbekistan as well, the process of introducing digital technologies into franchise networks has accelerated in recent years. In particular, companies such as EVOS, Bellissimo, and KFC are actively employing mobile applications, online ordering platforms, and electronic payment systems, thereby serving to improve service quality and consumer convenience. Nevertheless, the digital transformation of franchise systems in the country continues to be characterized by certain challenges, principally the uneven development of technological infrastructure, a shortage of IT specialists, and high investment costs.

4.4 A conceptual model of the sustainable franchise network

On the basis of the research findings, it was established that integrating digitalization and ecologization factors constitutes an important strategic necessity in the contemporary development of franchise systems. On this basis, a conceptual approach to a sustainable franchise model was developed, comprising the following five principal structural components:

(1) a digital management system, involving centralized management of franchise networks on the basis of ERP, CRM, and big data technologies; (2) an ecological management mechanism, involving the introduction of energy-efficient technologies, ecological packaging, and waste management systems; (3) an innovative marketing system, involving the use of mobile applications, digital advertising, and individualized marketing strategies; (4) a sustainable logistics system, involving rational resource use and the application of “green logistics” principles; and (5) an adaptive management model, involving mechanisms for rapid adaptation to external economic changes and risk management. This model serves to ensure the long-term sustainability of franchise companies, increase operational efficiency, and reduce ecological and economic risks, while simultaneously providing a theoretical and practical foundation for strengthening the competitiveness of franchise systems under contemporary global challenges.

4.5 Ecological management directions in franchise companies

Table 3. Principal directions of ecological management in franchise companies

Direction	Measures implemented	Expected outcome
Energy efficiency	LED technologies, energy-saving equipment, and automated control systems	Reduced electricity consumption and optimized operational costs
Waste management	Waste sorting, recycling, and disposal systems	Reduced negative environmental impact
Ecological packaging	Use of biodegradable and recyclable materials	Reduced volume of plastic waste
Green logistics	Electric vehicles and optimized logistics routes	Reduced CO2 emissions
Water resource management	Water-saving technologies and automated control systems	Rational resource use and reduced water consumption

Source: compiled based on international ecological management principles, ESG strategies, and franchise company practices.

International franchise companies' experience shows that integrating ecological principles into business operations serves not only to reduce ecological risks but also to increase economic efficiency. McDonald's, for instance, has achieved significant reductions in operational costs at its restaurants through the introduction of energy-efficient LED lighting systems, automated energy control, and water-saving technologies, while also increasing its use of ecological packaging materials to reduce plastic waste volume.

Table 4. Results of ecological technology adoption at international franchise companies

Indicator	Before adoption	After adoption
Electricity consumption	100%	72%
Volume of plastic waste	100%	58%
Logistics costs	100%	84%
CO2 emissions	100%	69%
Water consumption	100%	76%

Source: compiled based on international franchise companies' ecological strategies, ESG reports, and academic literature on sustainable development.

4.6 Case evidence: Starbucks' ecological strategy

Among contemporary international franchise companies, Starbucks is recognized as one of the companies that has successfully integrated ecological sustainability principles into its corporate governance system. The company's principal ecological initiatives include reducing the use of single-use plastic products, the broad application of recyclable packaging materials, increasing energy efficiency, and developing waste recycling systems. Starbucks' "Greener Stores" program constitutes an important element of this ecological management strategy, under which the company has introduced energy-efficient technologies, automated water control systems, ecologically safe construction materials, and waste recycling mechanisms at qualifying outlets.

Table 5. Results of ecological strategy implementation at Starbucks

Indicator	Before program	After program
Electricity consumption	100%	70%
Water consumption	100%	74%
Volume of plastic waste	100%	55%
CO2 emissions	100%	68%
Operational costs	100%	82%

Source: compiled based on Starbucks' ecological sustainability reports, ESG practices, and author analytical assessment.

4.7 Ecological transformation constraints in Uzbekistan's franchise sector

In Uzbekistan as well, the development of ecological requirements and "green economy" principles has in recent years begun to gradually influence the activity of franchise companies, particularly in the food service, retail trade, and services sectors, where a trend toward the use of ecologically safe packaging materials, reduced waste volumes, and the introduction of electronic services and digital technologies is forming. However, the effective development of ecological management in Uzbekistan's franchise systems continues to be constrained by a number of economic and institutional problems.

Table 6. Principal problems constraining the development of ecological management in Uzbekistan's franchise systems

Problem	Level of impact
High cost of ecological technologies	High
Insufficient ecological infrastructure	Medium-High
Shortage of qualified specialists	Medium
Limited scope of ecological standards	Medium
Low volume of "green" investments	High

Source: compiled based on the Republic of Uzbekistan's ecological policy, green economy strategy, international reports, and academic literature.

5. Discussion

The documented case evidence from McDonald's and Starbucks demonstrates that digital and ecological transformation are not merely compliance costs but can function as complementary sources of operational efficiency gain, a finding with direct relevance for the design of the sustainable franchise model proposed in this article. The observation that the constraints facing ecological management adoption in Uzbekistan are predominantly investment- and institutional-related rather than technological in nature suggests that targeted policy interventions, such as “green” investment incentives or subsidized ecological infrastructure development, could plausibly accelerate adoption more effectively than efforts focused solely on technology transfer.

The five-component sustainable franchise model proposed here (digital management, ecological management, innovative marketing, sustainable logistics, and adaptive management) is intended as a conceptual synthesis of the documented international case evidence rather than an empirically validated causal framework; its practical value for Uzbek franchise policy would benefit from future empirical testing, for instance through the econometric approach applied in the companion analysis of franchise network sustainability determinants, which specifically quantifies the combined statistical contribution of digitalization and ecological performance indicators to franchise network scale using cross-country panel data.

A further limitation of this analysis is its reliance on two illustrative case companies (McDonald's and Starbucks); while these cases are among the most extensively documented in the international franchise literature, the generalizability of their specific quantitative outcomes to franchise networks of different scale, sector, or regional context, including the Uzbek market, should be treated with appropriate caution.

6. Conclusion

Digital technologies and ecological requirements together constitute two of the most consequential forces reshaping the operational and strategic architecture of contemporary franchise networks. International case evidence from McDonald's and Starbucks demonstrates that digitalization can substantially reduce order-processing time and operational costs while increasing sales volume, and that ecological management initiatives, exemplified by Starbucks' Greener Stores program, can simultaneously reduce resource consumption and strengthen operational cost efficiency. The five-component sustainable franchise model proposed in this article, integrating digital management, ecological management, innovative marketing, sustainable logistics, and adaptive management, offers a conceptual framework for Uzbek franchise companies seeking to strengthen long-term competitiveness. For Uzbekistan specifically, addressing the predominantly investment- and institutional-related barriers to ecological transformation identified in this analysis represents a necessary complement to continued digital infrastructure development.



References

1. Erceg, A., et al., 2024. Green franchising: connecting sustainability and franchising. *Ecologica* 31(116).
2. Future Business Journal, 2025. Exploring the evolution and future research on sustainability in franchising: a systematic review of the literature. *Future Business Journal* 11.
3. International Franchise Association, 2024. Franchise Business Economic Outlook. Washington, DC: IFA.
4. Laudon, K.C., Laudon, J.P., 2023. *Management Information Systems: Managing the Digital Firm*, 17th ed. Pearson.
5. Plekhanov, D., Franke, H., Netland, T.H., 2023. Digital transformation: A review and research agenda. *European Management Journal* 41(6), 821-844.
6. Schwab, K., 2017. *The Fourth Industrial Revolution*. Geneva: World Economic Forum.
7. Statista, 2025. *Global Franchise Report*. Hamburg: Statista GmbH.
8. Vial, G., 2019. Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems* 28(2), 118-144.