BG Pulse Journal USA
ISSN:1947-2536 http://www.bgpulseusa.com/index.php/bg

THE IMPACT OF DIGITAL PLATFORMS AND CONSUMER PARTICIPATION ON THE STRATEGIC EFFECTIVENESS OF CONSTRUCTION ENTERPRISES

Qodir Rahimov
PhD, Associate Professor ,Tashkent University of Architecture and Construction

Gulomova Shakhlo
PhD Student, Tashkent University of Architecture and Civil Engineering

Javohir Ergashboyev
Master's Student, Tashkent University of Architecture and Civil Engineering

Abstract. This thesis examines the use of digital platforms in construction enterprises, the involvement of consumers in the value creation process, and their impact on the strategic effectiveness of enterprises. The study analyzes the role of CRM, ERP, and BIM systems in the activities of construction companies, the processes of digital transformation, and the advantages of the co-creation concept based on consumer participation. Furthermore, the trends of digitalization in Uzbekistan's construction sector, existing challenges, and possible solutions are explored. Based on the research findings, practical recommendations have been developed for integrating digital platforms into construction enterprises, enhancing interactive collaboration with customers, and implementing data-driven strategic management practices.

Keywords. Construction enterprise, digital platforms, strategic effectiveness, consumer participation, co-creation, CRM, ERP, BIM, digital transformation, strategic management, competitiveness, Big Data, artificial intelligence, customer loyalty.

Introduction. In the modern economy, digitalization processes are transforming all sectors and fundamentally changing traditional business models. Although the construction industry is one of the major drivers of economic growth, it faces specific challenges in adopting innovations. The increasingly competitive environment requires large construction enterprises not only to use resources efficiently but also to seek flexible and innovative ways of satisfying consumer needs[1]. Therefore, improving enterprise performance through the implementation of digital platforms in the construction sector has become one of the most pressing scientific and practical issues of today.

Digital transformation in construction is not limited to the application of information technologies alone. It represents a comprehensive optimization of all operational processes through Building Information Modeling (BIM), Big Data, and cloud-based systems. These technologies enable enterprises to minimize costs, shorten construction timelines, and make rapid data-driven management decisions in complex environments, thereby ensuring organizational sustainability.

Most importantly, digital platforms elevate the relationship between enterprises and consumers to a completely new strategic level. Unlike the traditional approach, digital platforms transform customers from passive buyers into active participants in the value creation process (co-creators). Through integrated systems, clients can monitor project progress in real time and

[1] Oesterreich, T. D., & Teuteberg, F. (2016). *Understanding the implications of digitisation and automation in the context of Industry 4.0: A triangulation approach and elements of a research agenda for the construction industry.* Computers in Industry, 83, 121-139.

introduce modifications during implementation. This provides an individualized approach to each customer and significantly enhances the strategic position and competitiveness of construction enterprises in the market.

Main Part. Digital Platforms in the Construction Industry. Contemporary theory defines digital platforms as innovative digital ecosystems that facilitate interaction among various economic agents, including producers, suppliers, and consumers. Within the platform economy, the traditional linear supply chain is transformed into a multidimensional network[2].

Digital platforms in the construction sector can generally be classified into three major categories:



Figure 1. Key Elements of Digital Platforms and Information Technologies in Construction Enterprises.

Consumer Participation and the Co-Creation Concept. The concept of co-creation in global marketing practice rejects the outdated view that value is created solely by producers and then

[2] Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. (2016). *Platform Revolution: How Networked Markets Are Transforming the Economy and How to Make Them Work for You.* W. W. Norton & Company.

delivered to consumers. According to the approach developed by C.K. Prahalad and V. Ramaswamy, value emerges through active interaction between enterprises and consumers.

This concept is particularly evident in the construction and real estate industries. Through digital platforms, including Virtual Reality (VR), Augmented Reality (AR), and 3D modeling technologies, customers can actively participate in housing planning, design decisions, and material selection before construction even begins. As a result, the customer evolves from a passive consumer into a co-creator.

The Impact of Consumer Participation on Enterprise Performance. The integration of consumers into business processes through digital platforms generates strong positive and synergistic effects on construction enterprises.

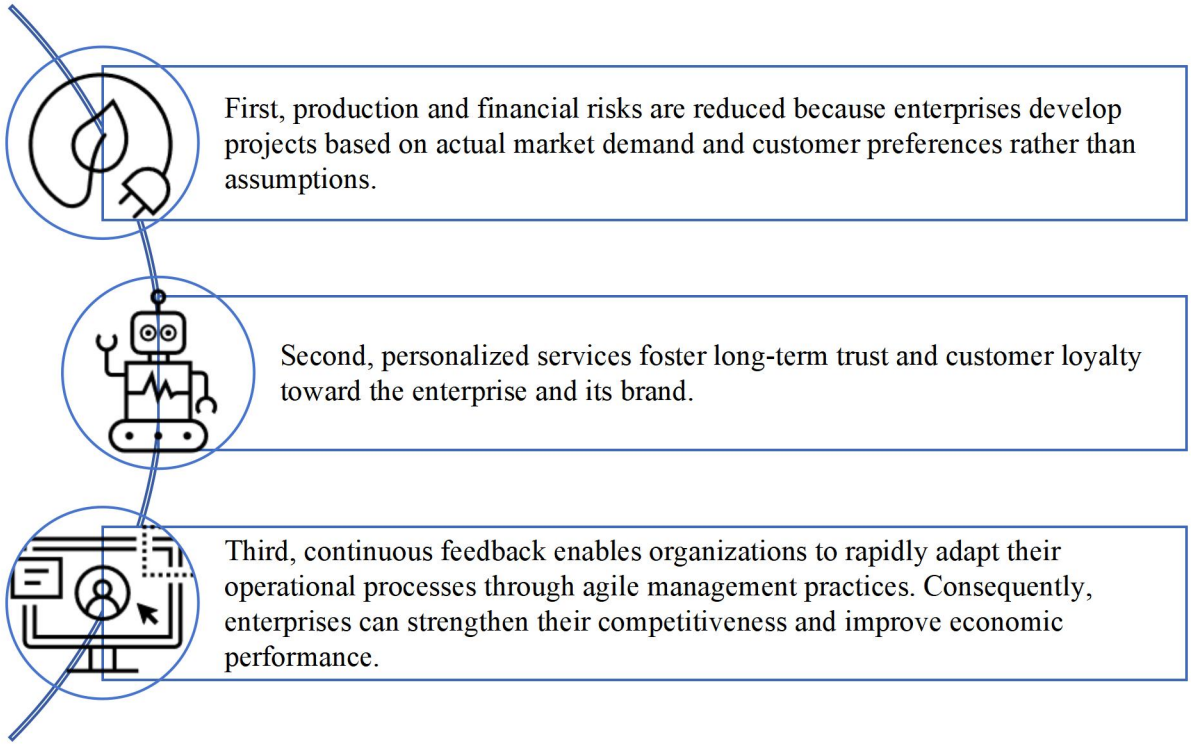


Figure 2. The Impact of Consumer Participation on Strategic Effectiveness in Construction Enterprises

In recent years, Uzbekistan has experienced unprecedented growth in the real estate and construction markets. To effectively manage this growth, the government has introduced a national strategy for construction sector digitalization and the "Transparent Construction" information system.

Current trends indicate that local construction companies are gradually transitioning from traditional marketing and sales models toward ecosystem-based digital platforms. The digitalization of public procurement systems and construction permitting processes has become a major driver encouraging private-sector enterprises to transform their internal business processes.

Application of CRM, BIM, ERP, and Online Platforms. Large construction and development companies in Uzbekistan, such as Murad Buildings, Golden House, and NRG, actively utilize the following digital systems:

CRM (Customer Relationship Management) Systems: Software solutions such as Bitrix24 and amoCRM are used for managing customer databases, analyzing sales funnels, and systematizing customer needs from the first interaction.

BIM (Building Information Modeling): BIM is widely applied in large-scale project design and 3D modeling. However, in local practice, BIM has not yet been fully integrated into the entire construction and operational lifecycle and remains primarily limited to engineering and architectural functions.

ERP (Enterprise Resource Planning) Systems: ERP solutions are used to control material resources and construction costs, particularly through 1C Construction modules. However, their integration with online digital platforms remains relatively weak.

Digital Communication Mechanisms with Customers. To create customer value and collect feedback, local enterprises actively use interactive communication channels, including mobile applications, Telegram bot ecosystems, and online personal accounts.

These mechanisms allow customers to:

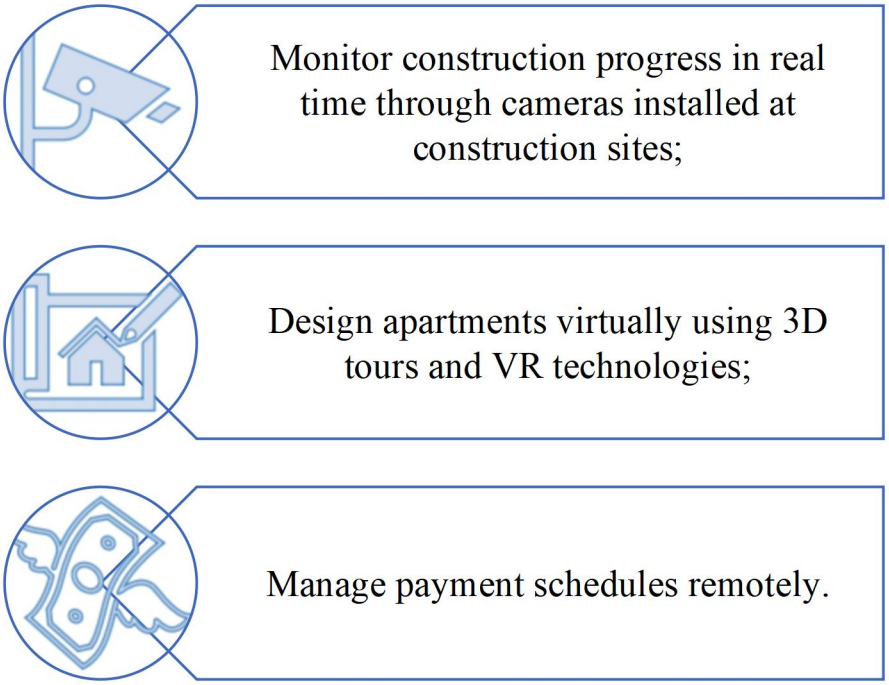


Figure 3. Digital Communication Mechanisms with Customers

These tools enhance transparency and strengthen customers' psychological involvement in the construction process.

Existing Problems and Limitations. Despite ongoing progress, several systemic challenges hinder the full utilization of digital platforms within Uzbekistan's construction sector[3]:

- Shortage of Qualified Personnel: There is a significant lack of specialists who possess expertise in both construction engineering and information technologies, particularly BIM managers.
- High Initial Costs: The acquisition and implementation of licensed ERP and BIM software remain financially burdensome for small and medium-sized construction enterprises.

[3] **Sacks, R., Eastman, C., Lee, G., & Teicholz, P. (2018).** *BIM Handbook: A guide to building information modeling for owners, designers, engineers, contractors, and facility managers.* John Wiley & Sons.

- Lack of Integration: CRM, ERP, and construction-site data systems often operate independently, creating "data silos" and disrupting the delivery of real-time information to customers.
- Digital Culture Limitations: Both managers and traditional consumers frequently lack sufficient digital skills and confidence in digital platforms.

Recommendations. 1. Strategy for Implementing Digital Platforms

Construction enterprises should integrate CRM (sales), ERP (finance and resources), and BIM (design) systems into a unified cloud-based platform. For small and medium-sized contractors, Software-as-a-Service (SaaS) solutions are recommended to reduce implementation costs.

2. Development of Customer Collaboration Mechanisms

Customers should be transformed from passive buyers into active co-creators. This can be achieved through interactive applications and personal accounts that allow customers to plan future apartments in 3D, select materials virtually, and monitor construction progress in real time.

3. Integration of Digital Technologies into Strategic Management

Management decisions should be based on data-driven approaches rather than intuition. Big Data analytics and Artificial Intelligence (AI) technologies can be utilized to forecast market conditions, analyze consumer behavior, and assess risks associated with raw material price fluctuations.

4. Supporting Green and Innovative Development

Digitalization should be aligned with environmental sustainability principles (ESG). BIM technologies can improve building energy efficiency, ERP systems can reduce construction waste, and digital platforms can facilitate the widespread implementation of Smart Home and green technologies.

Conclusion. The proposed recommendations and mechanisms can assist construction enterprises in implementing digital transformation efficiently and cost-effectively. The integration of CRM, ERP, and BIM systems within a unified environment, combined with interactive customer engagement tools such as 3D visualization and real-time monitoring, can optimize operational costs, enhance transparency, increase customer loyalty, and ultimately strengthen the competitiveness of construction enterprises in the long term.

References

1. Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. (2016). Platform Revolution: How Networked Markets Are Transforming the Economy and How to Make Them Work for You. New York: W. W. Norton & Company.
2. Ramaswamy, V., & Ozcan, K. (2014). The Co-Creation Paradigm. Stanford, CA: Stanford University Press.
3. Sacks, R., Eastman, C., Lee, G., & Teicholz, P. (2018). BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers (3rd ed.). Hoboken, NJ: John Wiley & Sons.
4. Qosimova, M. S., & Ergashxodjayeva, Sh. J. (2020). Marketing [Textbook]. Tashkent: Iqtisodiyot Publishing House.
5. Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. Journal of Interactive Marketing, 18(3), 5–14.

6. Oesterreich, T. D., & Teuteberg, F. (2016). Understanding the implications of digitisation and automation in the context of Industry 4.0: A triangulation approach and elements of a research agenda for the construction industry. Computers in Industry, 83, 121–139.
7. Azhar, S. (2011). Building information modeling (BIM): Trends, benefits, risks, and challenges for the AEC industry. Leadership and Management in Engineering, 11(3), 241–252.
8. Payne, A. F., Storbacka, K., & Frow, P. (2008). Managing the co-creation of value. Journal of the Academy of Marketing Science, 36(1), 83–96.