УДК 336.71:331.108:004

B. Bogdanets,
Postgraduate student, Volodymyr Dahl East Ukrainian National University
ORCID ID: https://orcid.org/0009-0007-1990-2302

DOI: 10.32702/2306-6814.2026.9.396

ARCHITECTONICS OF SMART PERSONNEL MANAGEMENT OF BANKING INSTITUTIONS IN THE CONTEXT OF THE DEVELOPMENT OF FINTECH ECOSYSTEMS AND THE INNOVATIVE ECONOMY

Б. Б. Богданець,
здобувач ступеня доктор філософії, Східноукраїнський національний університет імені Володимира Даля

АРХІТЕКТОНІКА СМАРТ-УПРАВЛІННЯ ПЕРСОНАЛОМ БАНКІВСЬКИХ ІНСТИТУЦІЙ У КОНТЕКСТІ РОЗВИТКУ ФІНТЕХ-ЕКОСИСТЕМ ТА ІННОВАЦІЙНОЇ ЕКОНОМІКИ

The article explores the theoretical and methodological principles of forming the architecture of smart personnel management of banking institutions in the context of the development of fintech ecosystems and the innovative economy. It is substantiated that modern transformation processes in the financial sector, associated with digitalization, the development of platform solutions and increased competition from non-banking institutions, necessitate the transition to new models of human capital management. It is proven that traditional approaches to personnel management do not provide the proper level of adaptability, innovation and integration into digital financial environments. Modern scientific approaches to the digital transformation of banking and personnel management are analyzed and an insufficient level of research into the architecture of smart management as an integral system operating within fintech ecosystems is established. A conceptual vision of smart personnel management as a multi-level integrated system combining intellectual, technological and organizational components is proposed. An architectural and functional model of smart personnel management of banking institutions has been developed, which covers cognitive-human resources, behavioral-adaptive, process-integration, ecosystem-communication and strategic-predictive contours. It has been determined that digital technologies, in particular big data analytics, artificial intelligence and digital interaction platforms, play a key role in the functioning of this system, which ensure the transition to proactive personnel management. The importance of multi-level interaction (individual, team, organizational and ecosystem levels) in the formation of an effective management system has been substantiated, and the importance of developing digital competencies, flexible organizational structures and a culture of open interaction has been proven. It has been established that the implementation of smart architecture contributes to increasing the efficiency of human capital use, strengthening innovative activity and forming sustainable competitive advantages of banking institutions. It is concluded that the architecture of smart personnel management is a dynamic system, the effectiveness of which is determined by the ability to integrate internal organizational processes with external elements of fintech ecosystems.

У статті досліджено теоретико-методологічні засади формування архітектоніки смарт-управління персоналом банківських інституцій у контексті розвитку фінтех-екосистем та інноваційної економіки. Обгрунтовано, що сучасні трансформаційні процеси у фінансовому секторі, пов'язані з цифровізацією, розвитком платформних рішень і зростанням конкуренції з боку небанківських установ, зумовлюють необхідність переходу до нових моделей управління людським капіталом. Доведено, що традиційні підходи до управління персоналом не забезпечують належного рівня адаптивності, інноваційності та інтеграції у цифрові фінансові середовища. Проаналізовано сучасні наукові підходи до цифрової трансформації банківської діяльності та управління персоналом і встановлено недостатній рівень дослідженості архітектоніки смарт-управління як цілісної системи, що функціонує в межах фінтех-екосистем. Запропоновано концептуальне бачення смарт-управління персоналом як багаторівневої інтегрованої системи, що поєднує інтелектуальні, технологічні та організаційні компоненти. Розроблено архітектурно-функціональну модель смарт-управління персоналом банківських інституцій, яка охоплює когнітивно-кадровий, поведінково-адаптивний, процесно-інтеграційний, екосистемно-комунікаційний та стратегічно-прогностичний контури. Виз-

начено, що ключову роль у функціонуванні цієї системи відіграють цифрові технології, зокрема аналітика великих даних, штучний інтелект і платформи цифрової взаємодії, які забезпечують перехід до проактивного управління персоналом. Обгрунтовано значення багаторівневої взаємодії (індивідуального, командного, організаційного та екосистемного рівнів) у формуванні ефективної системи управління, а також доведено важливість розвитку цифрових компетенцій, гнучких організаційних структур і культури відкритої взаємодії. Встановлено, що впровадження смарт-архітектури сприяє підвищенню ефективності використання людського капіталу, посиленню інноваційної активності та формуванню стійких конкурентних переваг банківських інституцій. Зроблено висновок, що архітектоніка смарт-управління персоналом є динамічною системою, ефективність якої визначається здатністю інтегрувати внутрішні організаційні процеси із зовнішніми елементами фінтех-екосистем.

Key words: banking institutions, human resources management, smart management, fintech ecosystems, digital transformation, human capital, innovative economy.

Ключові слова: банківські інституції, управління персоналом, смарт-управління, фінтех-екосистеми, цифрова трансформація, людський капітал, інноваційна економіка.

GENERAL STATEMENT OF THE PROBLEM AND ITS CONNECTION WITH IMPORTANT SCIENTIFIC OR PRACTICAL TASKS

Banking institutions operate in an environment characterized by the rapid development of fintech ecosystems, the growing role of digital platforms, and increased competition from non-banking financial services. In such conditions, traditional HR management models are not effective enough, as they do not provide the appropriate level of adaptability and innovation. There is a need to form a new management architecture that is able to integrate human capital into digital financial ecosystems and ensure their sustainable development.

ANALYSIS OF RECENT RESEARCH AND PUBLICATIONS, IN WHICH THE SOLUTION OF THIS PROBLEM WAS INITIATED AND ON WHICH THE AUTHOR RELIES, HIGHLIGHTING PREVIOUSLY UNRESOLVED PARTS OF THE GENERAL PROBLEM, TO WHICH THE SPECIFIED ARTICLE IS DEVOTED

In the scientific literature, considerable attention is paid to the issues of digital transformation of the banking sector, the development of fintech technologies and human capital management [1—19]. At the same time, the structural organization of smart personnel management as a holistic system operating within fintech ecosystems has not been sufficiently studied. The concept of management architectonics, which allows combining different levels and elements of the management system into a single logical structure, requires further development.

FORMULATION OF THE OBJECTIVES OF THE ARTICLE (TASK STATEMENT)

The purpose of the article is to substantiate the architecture of smart personnel management in banking institutions and identify the key elements and mechanisms of its functioning in the context of the development of fintech ecosystems and the innovative economy.

PRESENTATION OF THE MAIN MATERIAL OF THE STUDY WITH A FULL JUSTIFICATION OF THE OBTAINED SCIENTIFIC RESULTS

Smart HR management in banking institutions should be considered as a complex multi-level system based on the integration of digital technologies, analytical tools and management practices. Its architecture is determined by the structure of relationships between the elements of the system that ensure the effective functioning and development of human capital. In modern conditions, fintech ecosystems act as an environment in which banking institutions interact with clients, partners and other market participants. This necessitates the formation of open HR management models that ensure the integration of internal and external resources. An important aspect is the use of digital platforms that allow automating management processes, increasing their transparency and efficiency. The architecture of smart management involves the allocation of several key levels, among which the individual, team, organizational and ecosystem levels occupy a special place. At the individual level, the main attention is paid to the development of employee competencies, the formation of their digital skills and the ability to innovate. The command level ensures effective interaction between employees, which contributes to achieving a synergistic effect. The organizational level is focused on the formation of strategic approaches to personnel management, while the ecosystem level involves the integration of banking institutions into global financial networks. A special role in smart management is played by data analytics, which allows monitoring personnel activities, assessing the effectiveness of management decisions and predicting the development of human capital. The use of artificial intelligence and machine learning tools creates opportunities for the transition to proactive management, when decisions are made based on forecasts and scenario analysis. Table 1 shows the architectural and functional model of smart

ISSN 2306-6814

personnel management of banking institutions in fintech ecosystems (Table 1).

Further development of smart management architecture is associated with the implementation of an ecosystem approach, which involves the integration of various financial market entities into a single digital platform. This allows for more effective interaction between market participants and creates conditions for the development of innovative financial products. An important direction is also the formation of a culture of digital interaction, which involves the development of communication skills, the ability to work in a team and openness to change. This contributes to increasing the efficiency of personnel management and ensures the sustainability of banking institutions in the long term. Expanding approaches to the formation of smart management architecture, it is advisable to focus on the interaction of internal management circuits with external digital environments. Within the fintech ecosystems, banks are increasingly moving from closed organizational structures to open platform models, where personnel become active participants not only in internal processes, but also in interorganizational communications. This changes the very logic of management, focusing it on the coordination of network connections, rapid scaling of competencies and integration of knowledge [1; 3—6; 12; 15]. In such conditions, the dynamic configuration of personnel roles becomes especially important. Employees of banking institutions increasingly perform multifunctional roles, combining analytical, consulting and technological functions. This requires the formation of flexible mechanisms for distributing tasks that are based not on formal job descriptions, but on real competencies and current needs of the organization. This approach allows for an increase in the speed of response to market changes and to ensure more effective use of human capital [2; 7—11; 13—14]. The development of the intellectual environment of banking institutions, which is formed through the integration of knowledge, experience and digital resources, requires special attention. The use of internal knowledge exchange platforms, digital libraries and decision-making support systems creates the prerequisites for the formation of the collective intelligence of the organization. This allows not only to improve the quality of management decisions, but also to ensure continuous development of personnel in conditions of rapid technological change. In general, it can be noted that the architecture of smart personnel management of banking institutions is a dynamic system that is constantly transforming under the influence of technological and economic changes. Its effectiveness is determined by the ability to integrate different levels of management, ensure the flexibility of organizational structures and create conditions for the development of the innovative potential of personnel. Further deepening of the architecture of smart personnel management of banking institutions is advisable to carry out by clarifying the mechanisms for coordinating individual goals of employees with the general logic of the functioning of fintech ecosystems. In modern conditions, the effectiveness of banks' activities is determined not only by the level of professional training of personnel, but also by the ability to quickly integrate new knowledge into practical activities. This requires a transition from static management models to dynamic systems, in which continuous information exchange and prompt updating of competencies become key. In this context, it is important to build a multi-level system of personnel development management that ensures consistency between different levels of the organization. At the individual level, the emphasis is shifted to the formation of personalized professional growth trajectories that take into account not only the current needs of the banking institution, but also the potential of the employee. The team level ensures effective interaction between employees, contributing to the formation of collective intelligence and increasing the effectiveness of joint activities. The organizational level is focused on the integration of these processes into the strategic directions of the bank's development.

Table 1. Architectural and functional model of smart personnel management of banking institutions in fintech ecosystems

Architectural outline	Management content	Digital intelligence	Implementation mechanisms	Systemic effect
Cognitive-staff	formation of the intellectual potential of personnel, development of complex competencies	digital recruitment systems, skills analytics, competency assessment models	individual development programs, personnel retraining	improving the quality of human capital
Behavioral-adaptive	regulation of behavioral reactions of personnel in conditions of change	employee performance analytics systems, satisfaction monitoring	flexible motivation systems, adaptive work modes	increasing the resilience of personnel
Process-integration	coordination of personnel activities with the bank's business processes	process management systems, digital integration of operations	task coordination, management automation	reducing the cost of time and resources
Ecosystem-communication	interaction of personnel with clients and partners	digital interaction platforms, cloud services	organization of inter-subject interaction, electronic communications	expanding the functional capabilities of personnel
Strategic-predictive	orientation of personnel development on the strategic goals of the bank	forecasting systems, big data analytics	strategic planning, modeling of development scenarios	increasing the validity of management decisions

Source: developed by the author.

The formation of mechanisms for internal personnel mobility, which allow for rapid reallocation of resources in accordance with changes in the external environment, is of particular relevance. This approach ensures the flexibility of the organizational structure and increases the efficiency of human capital use. At the same time, it contributes to the expansion of the professional experience of employees, which is an important factor in their long-term development. An essential element of smart management is also the formation of a feedback system, which is based on constant monitoring of the results of personnel activities and assessing the level of their interaction with clients. Such a system allows for timely identification of problematic aspects in management and adjustment of management decisions. It is important that it should be integrated into the digital environment of a banking institution, which ensures its efficiency and reliability. Within the framework of fintech ecosystems, the role of communication processes, which become the basis of interaction between all participants in the financial market, is significantly increasing [4; 6; 12—15; 18]. This requires the development of new forms of labor organization, in particular remote and mixed employment, which allows attracting highly qualified specialists to the activities of banking institutions regardless of their geographical location. As a result, a new type of organizational culture is formed, which is based on openness, trust and readiness for change. No less important is the consideration of the institutional environment factor, which determines the framework conditions for the functioning of banking institutions. Regulatory requirements, security standards and features of financial legislation affect the formation of the personnel management system and determine its specifics. In such conditions, smart management must ensure a balance between innovation and compliance with regulatory requirements, which is a key factor in the stability of the banking system.

Deepening the above approaches, it is advisable to focus on the formation of an integrated information space that unites all elements of the personnel management system. Such a space provides access to the necessary data, promotes their effective use and creates the prerequisites for making informed management decisions. It also serves as the basis for the development of intelligent management support systems that allow increasing the efficiency of banking institutions.

In summary, it can be noted that the further development of smart HR architecture is associated with the transition to complex integrated models that combine technological, organizational and behavioral aspects of management. It is this integration that ensures the formation of a flexible and adaptive system capable of functioning effectively in the conditions of an innovative economy and the development of fintech ecosystems.

CONCLUSIONS FROM THIS STUDY AND PROSPECTS FOR FURTHER RESEARCH IN THIS DIRECTION

As a result of the research, it is substantiated that the architecture of smart personnel management of banking institutions is formed as a holistic multi-level system capable of integrating human capital into the dynamic environment of fintech ecosystems. It is proven that modern transformation processes in the financial sector necessitate a transition from traditional administrative models to intellectualized, flexible and technologically oriented approaches to personnel management. It is established that the key characteristics of an effective smart management system are adaptability, integration and the ability to continuously update competencies. Of particular importance is the coordination of individual employee development with the strategic goals of banking institutions, which ensures increased performance and the formation of sustainable competitive advantages. It is substantiated that the introduction of digital tools, the development of analytical approaches and the formation of an integrated information space create the prerequisites for improving the quality of management decisions. It has been proven that the effectiveness of smart management architecture largely depends on the ability of banking institutions to combine internal organizational processes with external elements of fintech ecosystems. Such interaction contributes to the expansion of the functional capabilities of personnel, increasing the level of their involvement and forming an innovative environment. At the same time, ensuring a balance between innovation and regulatory requirements is an important factor in the stability and reliability of the functioning of the banking system. The generalization of the results obtained gives grounds to assert that the development of smart personnel management is a strategic direction for the transformation of banking institutions in the conditions of an innovative economy. Its implementation ensures increased efficiency in the use of human capital, strengthening competitive positions and forming the ability to quickly respond to the challenges of the global financial environment.

It is advisable to link the prospects for further research with the development of applied tools for assessing the effectiveness of smart personnel management, deepening the methods of analyzing the behavioral aspects of employee activity, and studying the impact of digital financial platforms on the transformation of organizational structures of banking institutions.

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Отримано редакцією журналу / Received: 26.04.26

Прорецензовано / Revised: 06.05.26

Дата публікації / Published: 12.05.26