



REVIEW

Innovative Solutions in Administrative Management: Trends and Prospects

Soluciones innovadoras en gestión administrativa: Tendencias y perspectivas

Inna Sokhan¹  , Liu Jiren² , Kateryna Kandahura³ , Nataliia Hoi⁴ , Petro Matkovskiy⁵ 

¹Sumy National Agrarian University, Department of Management Named After Professor L. Mykhailova, Faculty of Economics and Management. Sumy, Ukraine.

²Sumy National Agrarian University, Public Management and Administration Department. Sumy, Ukraine.

³State University of Trade and Economics, Department of Management. Kyiv, Ukraine.

⁴Vasyl Stefanyk Precarpathian National University, Department of Management and Business Administration. Ivano-Frankivsk, Ukraine.

⁵Vasyl Stefanyk Precarpathian National University, Department of Accounting and Taxation, Faculty of Economics. Ivano-Frankivsk, Ukraine.

Cite as: Sokhan I, Jiren L, Kandahura K, Hoi N, Matkovskiy P. Innovative Solutions in Administrative Management: Trends and Prospects. Salud, Ciencia y Tecnología - Serie de Conferencias. 2025; 4:.655. <https://doi.org/10.56294/sctconf2024.655>

Submitted: 19-02-2024

Revised: 03-07-2024

Accepted: 12-12-2024

Published: 01-01-2025

Editor: Prof. Dr. William Castillo-González 

Corresponding author: Inna Sokhan 

ABSTRACT

Introduction: administrative management for modern enterprises is evolving into an integrated tool supporting adaptive development and implementing advanced innovative technologies. This study aimed to systematise innovative solutions for organising administrative management in contemporary enterprises.

Method: the research systematically analysed current administrative management practices, focusing on integrating innovative digital technologies. Business process modelling was used to conceptualise the application of these innovations within administrative frameworks.

Results: the findings revealed that current trends in administrative management emphasise lean production systems enhanced by digital technologies, including Big Data analytics, artificial intelligence, and business process modelling. Business process modelling was identified as a critical tool for planning administrative management, enabling a clear definition of process stages, assignment of responsibilities, and determination of essential data for implementation. A model for integrating innovations into administrative management processes was developed, demonstrating the value of structured digital approaches.

Conclusions: the innovative development of modern administrative management is primarily driven by the adoption of digital technologies. By leveraging tools like business process modelling, enterprises can streamline administrative workflows, enhance adaptability, and facilitate the integration of cutting-edge solutions. These findings underscore the importance of digitalisation in transforming administrative management to meet the demands of a competitive business environment.

Keywords: Administrative Management; Business Development; Digitalisation; Business Process Modelling.

RESUMEN

Introducción: la gestión administrativa de las empresas modernas se está convirtiendo en una herramienta integrada que respalda el desarrollo adaptativo y la implementación de tecnologías innovadoras avanzadas. Este estudio analiza y sistematiza soluciones innovadoras para organizar la gestión administrativa en las empresas contemporáneas.

Método: la investigación realizó un análisis sistemático de las prácticas actuales de gestión administrativa, centrándose en la integración de tecnologías digitales innovadoras. Se empleó la modelización de procesos empresariales para conceptualizar la aplicación de estas innovaciones dentro de los marcos administrativos.

Resultados: los hallazgos muestran que las tendencias actuales en la gestión administrativa destacan sistemas de producción ajustada mejorados con tecnologías digitales, como el análisis de Big Data, la inteligencia artificial y el modelado de procesos empresariales. El modelado de procesos empresariales se identificó como una herramienta clave para la planificación de la gestión administrativa, permitiendo definir de manera clara las etapas del proceso, asignar responsabilidades y determinar los datos esenciales para su implementación. Asimismo, se desarrolló un modelo para integrar innovaciones en los procesos de gestión administrativa, demostrando el valor de los enfoques digitales estructurados.

Conclusiones: el desarrollo innovador de la gestión administrativa moderna está impulsado principalmente por la adopción de tecnologías digitales. Mediante herramientas como el modelado de procesos empresariales, las empresas pueden optimizar los flujos de trabajo administrativos, aumentar la adaptabilidad y facilitar la integración de soluciones avanzadas. Estas conclusiones subrayan la relevancia de la digitalización en la transformación de la gestión administrativa para enfrentar las exigencias de un entorno empresarial competitivo.

Palabras clave: Gestión Administrativa; Desarrollo Empresarial; Digitalización; Modelado De Procesos Empresariales.

INTRODUCTION

Research Problem

The research problem is identifying the main trends in modern innovative solutions to ensure effective administrative management. In the current context of the development of the concept of administrative management, more and more attention is paid to introducing digital technologies into the management system. Accordingly, there is a need to analyse the specifics of introducing innovative technologies to implement each of the management functions. Therefore, the research problem primarily concerns the peculiarities of introducing digital innovations into the administrative management system.

Research focus

The study focuses on analysing the specifics of modern administrative management systems and the potential for introducing innovative digital tools into the administrative management system. The study pays special attention to the business process of introducing innovations into the administrative management of an enterprise, which will allow gradual and effective planning of measures to introduce innovations in the field of administrative management, considering the advantages and disadvantages of each of them.

Background

Effective organisational management in today's dynamically changing environment requires the use of adequate concepts, techniques, and tools. Administrative management, the scientific foundations of which were laid down at the beginning of the last century by A. Fayol⁽¹⁾, is one of the promising areas of management that uses modern administrative and administrative forms of management and allows the introduction of innovative technologies to increase the impact of management systems on labour productivity at enterprises of different specialisations and different forms of ownership.

The prospects for applying modern administrative management systems at domestic enterprises are enormous. In recent decades, the most developed enterprises have begun to enter global markets, and their attempts to compete with Western and Asian companies can only succeed if they implement the advanced developments of leading experts in building effective management systems, thereby rejecting the outdated business management model. One of the most promising opportunities in building effective management systems is the system of innovative administrative management, which is mainly based on the analysis and optimisation of business processes.

The administrative management system is a basic enterprise management system that helps the enterprise operate with the highest possible efficiency. ⁽²⁾ Administrative management is one of the main areas of modern management based on administrative and prescriptive forms.

Given the considerable relevance of the research topic, the goal can be defined as analysing and systematising innovative solutions in the organisation of modern administrative management.

Objectives

Given the relevance of the research topic, its purpose is to analyse and systematise possible innovative solutions in the organisation of modern administrative management.

METHOD

Modern administrative management uses various methods and tools to improve management processes. A special place in them is occupied by innovative tools, the analysis of which requires a wide range of methods and approaches. It is worth emphasising that the study focuses on the current features of building administrative management systems and the introduction of innovations in this area. The research is based on scientific publications related to the modern features of building the administrative management of a company and analysing the possibilities of introducing innovations into the administrative management system. The work also focuses on understanding the essence of business processes and their adaptation in developing the enterprise's management system. In the scientific space, there are few publications related to administrative management and business processes, and, accordingly, there is a need to develop a scientific basis for the introduction of this tool into the marketing activities of modern companies in response to current trends in 2023.

Actually, the research involves a detailed definition of the features of administrative management in the context of active implementation of innovations and trends in the digitalization of management systems based on the application of the method of analysis of scientific sources on the topic of the research. The next step, based on the analysis and systematization of scientific sources, is to specify the general and technological principles of organizing managerial innovations. To complete the research and obtain a comprehensive result, the method of business process modeling was used, which allowed developing the process of implementing innovations in the administrative management of the enterprise. Special attention was paid to the decomposition of the context diagram and a detailed model of the business process of implementing innovations in the administrative management of the enterprise was formed.

Research design

The study identifies the main directions for implementing modern innovative approaches to business development in administrative management. Accordingly, to obtain a comprehensive and systematic result, the study uses the systematisation method to identify administrative management features in the context of active implementation of innovations and trends towards the digitalisation of management systems. Separately, the methods of analysis and synthesis are applied to determine the principles underlying the introduction of innovations in administrative management. A specific method of modelling business processes is applied to model the business process of introducing innovations into the administrative management of the enterprise.

The main users of information about the possibilities of applying innovations in administrative management are business representatives who can use this innovative tool to improve the efficiency of work within modern administrative management systems. ^(3, 4, 5) At the same time, the study may also interest representatives of information technology companies that develop content for modelling and analysing business processes.

The research tools are primarily based on analysing companies' experience using innovative administrative management tools and generalising this experience to formulate recommendations on the opportunities and risks of applying the latest procedures in enterprise management. The proposed tools for implementing innovative development of the administrative management system may be useful primarily for managers of large companies interested in improved management systems.

In general, the methods of analysis and synthesis, grouping, generalisation, systematisation, and modelling of business processes were used to achieve the study's results. The methods of analysis and synthesis were used to identify the main trends in the development of modern administrative management. The method of systematisation is used to understand the potential benefits of optimising the administrative management system. The method of generalisation and modelling of business processes is used to build a model of innovative development of the modern system of administrative management at an enterprise.

Data collection

The research utilised 50 scientific sources published within the last five years, including only the most current and relevant materials. Keywords such as innovations, administrative management, digitalisation of management processes, digital economy, and innovative approaches to management were used to select the literature. The selected sources were indexed in international scientometric databases, including Scopus, Web of Science, and Google Scholar, emphasising scientific articles from different countries.

The literature base for this study was selected through searches in the central databases Web of Science and Scopus. Through a review of scientific literature, groups interested in the research were identified, including government officials, business leaders and owners, financial directors, technical specialists, and others. The period for database searches was set from February 2019 to May 2024 to ensure the continuity and integrity of the research conducted in the last five years.

RESULTS AND DISCUSSION

Literary review of current trends in the development of administrative management

Modern administrative management allows to reveal wider opportunities for improvement and development of an organisation based on its own, primarily administrative, resources that mobilise its synergistic effect. Implementation of the administrative management system allows to reveal unused resources of the management elements and increase the synergistic effect of the management system in the organisation.

Administrative management in European and Asian companies has evolved from the development of the classical administrative management system to lean manufacturing, information technology, and quality management systems.^(6,7,8)

Therefore, the administrative management system is primary. Any improvement of management in companies around the world usually begins with the establishment of an administrative system. It is the foundation of effective management, without which, in principle, effective management is impossible.

At the same time, several authors^(9,10) today emphasise that for effective administrative management and high-quality construction of an administrative management system, it is necessary to consider the peculiarities of human behaviour and to take into account behavioural approaches. Moreover, modern administrative management is becoming more and more customer-oriented, as also emphasised in scientific sources^(11,12), as companies become an open space, build a corporate culture considering market requirements and the possibilities of applying various areas of modernisation and implementing innovative development tools.

Since such attention is paid to considering the wishes and requests of consumers, it is logical that there is a need to process information from them and process large amounts of data coming from customer surveys or requests on social media. In this context, scientists are now increasingly considering the possibilities of artificial intelligence^(13,14,15), big data processing⁽¹⁶⁾ and the Internet of Things.⁽¹⁷⁾ Modern administrative management on the verge of 2023-2024 allows implementing a process approach to management and using its capabilities.^(18,19) This is important for small organisations, as it solves the problem of manageability, which increases as they grow and develop. It is even more important for medium and large organisations that have many lines of business but lose flexibility due to the complexity of managing them.

The application of the process approach allows the revision of the existing management system in enterprises in order to separate all end-to-end processes of production of goods and services from each other.^(20, 21)

Many innovations do not and cannot produce serious results unless management is based on a modern administrative management system that uses the capabilities of the process approach. If a company is going to improve management efficiency, it should start with mastering administrative management.

Innovative administrative management can be a good basis for mastering lean manufacturing methods, the use of information technology, and the application of quality systems.

Regular administrative management allows you to move to the organisation of lean production of goods or services. Lean manufacturing is a revolutionary, breakthrough approach to management in general and quality management in particular, as it ensures the long-term competitiveness of enterprises without significant capital investment.

Therefore, one of the trends in modern innovative administrative management is the introduction of a lean production system.^(22,23,24) However, according to modern scientific sources⁽²⁵⁾, lean manufacturing has received a new development and is gradually becoming not only a tool for the economical use of resources but also for the rational implementation of innovative digital tools. The fact is that against the backdrop of the popularisation of digital development, modern companies may use digital tools recklessly and increase the cost of their implementation and maintenance but not get the desired result. However, the literature also contains recommendations on how to adapt the concept of lean manufacturing to modern administrative management:

1. The first group of researchers^(26,27,28) suggests focusing on business intelligence approaches, which involves a comprehensive analysis of the company's activities with subsequent changes in administrative and corporate management.
2. The second group of researchers^(29,30) proposes to deepen marketing research on consumer behaviour and the reaction of the target audience to certain changes in products and services. And, based on the audience's reaction, make changes to the administrative management system. At the same time, these marketing procedures can be carried out using the latest digital tools, as also emphasised by the authors⁽³¹⁾ in modern scientific publications.
3. The third group of researchers^(32,33,34) suggests that attention should be paid to the issue of internal employee satisfaction with enterprise processes. The argumentation lies in the plane of the need to take into account the position of employees in relation to administrative management, which primarily concerns them.

Therefore, one of the trends in modern innovative administrative management is introducing a lean production system.

However, according to modern scientific sources,⁽²⁵⁾ lean manufacturing has received a new development. It is gradually becoming a tool for the economical use of resources and the rational implementation of innovative digital tools. The fact is that against the backdrop of the popularisation of digital development, modern companies may use digital tools recklessly and increase the cost of their implementation and maintenance but have yet to get the desired result. However, the literature also contains recommendations on how to adapt the concept of lean manufacturing to modern administrative management:

1. The first group of researchers^(26,27,28) suggests focusing on business intelligence approaches, which involves a comprehensive analysis of the company's activities with subsequent changes in administrative and corporate management.
2. The second group of researchers^(29,30) proposes deepening marketing research on consumer behaviour and the reaction of the target audience to certain changes in products and services. Based on the audience's reaction, they propose changes to the administrative management system. At the same time, these marketing procedures can be carried out using the latest digital tools, as also emphasised by the authors⁽³¹⁾ in modern scientific publications.
3. The third group of researchers^(32,33,34) suggests that attention should be paid to the issue of internal employee satisfaction with enterprise processes. The argument is that the need to take into account employees' position in relation to administrative management, which primarily concerns them, must be considered.

Thus, in today's conditions, administrative management is a field of management that focuses on the organisation and coordination of various aspects of an organisation or enterprise, but it has a huge number of different tools and methods in its arsenal that allow to obtain a positive result. table 1 shows some features of administrative management in the context of active implementation of innovations and trends towards digitalisation of management systems in 2023. It is proposed to consider these features through the classical management functions but with an awareness of how they are implemented in modern conditions.

Table 1. Features of administrative management in the context of active implementation of innovations and trends towards digitalisation of management systems in 2023

Administrative management function	Feature description	Features of the function implementation in modern conditions of innovation
Planning	Planning is a key stage of management. The administrative manager determines the goals, strategies, and tactics needed to achieve these goals	Big data, artificial intelligence, etc. can be used to plan performance indicators
Organisation.	It is the process of creating the structure and systems that enable you to get things done effectively. It includes assigning responsibilities, creating teams, and establishing rules and procedures	An organisation becomes significantly more efficient when modelling and analysing business processes
Personnel management	Administrative management includes the selection, recruitment, training, and motivation of staff. Human resource management is an important part of the successful functioning of any organisation	Personnel management is based on modelling internal business processes and involving employees in the lean production system
Resource management	Covers the effective use of financial, material, and other resources to achieve the organisation's goals	Combining a lean manufacturing system with business process modelling will help create the prerequisites for saving resources
Information management	In today's business environment, access to information is critical. Administrative management involves collecting, processing, and analysing information to make informed decisions	To manage information, modern management uses the full range of possible information technologies and information resources
Monitoring and evaluation	Constant monitoring of the implementation of plans and achievement of goals, as well as evaluation of results, allows administrators to make timely adjustments and maintain the efficiency of the organisation	To control the results of administrative management, digital methods of quality analysis, analytics of reviews about the company on the Internet can be used
Adapting to change	In the modern world, changes are happening fast. Administrative management must be flexible and open to change, and respond quickly to new conditions and market demands	Well-constructed and well-thought-out business processes within the company greatly facilitate the process of adapting to changes

Source: compiled by the authors based on^(35, 36)

These features allow administrative management to effectively manage an organisation or enterprise in the modern business environment based on the principles of organising managerial innovations, i.e. on the guidelines developed by theory and practice that should be followed in the process of managing innovations. Knowledge of and adherence to the principles can improve the efficiency of preparation and implementation of managerial innovations and ultimately increase the effectiveness of administrative activities. There are general and technological principles for organising managerial innovations. General principles include:^(37,38) the principle of controllability of the innovation process; the principle of relevance of innovations; the principle of systematic innovation

The principle of controllability of the innovation process means that there are objective prerequisites for managerial influence on the process of development and implementation of innovations. Implementation of innovations is not a spontaneous process. Achieving an innovative effect requires coordinated actions to reduce deviations from the chosen course. This is necessary because the innovation process is not automatically regulated. The task of purposeful management of the innovation process is to ensure that the actual state of the innovation process is in line with the desired, planned state. The solution to this task involves the implementation of all management functions, from planning to controlling changes. The operational performance of these functions should be assigned to the relevant competent service (body) in the administrative institution.

The principle of the relevance of innovations means that managerial innovations should be seen as the result of organisational development of the administrative system. The current state of the management system is reflected in the content of the planned organisational changes. For this reason, the innovation project should be organically linked to the existing needs of the management body to improve the structure and methods of management.

The relevance of the innovation shows that it is in demand in this organisational system. The principle of systemic innovation means that managerial innovations are a single process consisting of the stages of their development, implementation, and realisation. The coherence of these stages has a significant impact on the results of the innovation. The innovative effect arises both from the implementation and the development of an innovation. A full-fledged innovation process is impossible in the absence of one of the stages. The objectives of the innovation and the main organisational changes are set out in a plan, which is then implemented based on the developed business process and its subsequent implementation in practice. The innovation process has a complex structure and affects various components of administrative activities. Managerial innovations cannot be narrowly specialised; they have many aspects that should be carefully analysed and considered in the process of managing innovations in the government. The effectiveness of managerial innovation business processes depends on financial, informational, organisational, and psychological factors. Since the study proved that for a modern enterprise, high-quality, innovative transformations in the system of administrative management are possible, if business processes are planned well, it is logical to present the author's business process of introducing innovations into administrative management, which will clearly demonstrate the complexity and systemic nature of the approach to building business processes. Figure 1 shows a context diagram of the business process model for introducing innovations into the administrative management of an enterprise.

According to the modelled business process, it is worth emphasising that the process of preparing and implementing innovations should be internally coordinated. Different changes can take place simultaneously in an organisation. As long as they operate separately from each other, the effect of innovation will be low.

Organisation of managerial innovations involves solving the problem of methodological support of the innovation process. Various methods and tools are used in the process of development and implementation of managerial innovations. In addition to the methods of preparing a change project and implementation, due attention should be paid to the organisation of work in managing the process of introducing innovations. This work should be based on scientific methods that have proven their effectiveness in similar situations.

Today, scholars in different countries and from different perspectives are considering the issue of administrative management. One group of researchers^(39,40,41,42) focuses exclusively on the fact that successful enterprise management requires clear regulation of all administrative processes. Other researchers^(43,44,45), on the contrary, suggest that it is important for modern businesses to build a flexible management system that will allow it to adapt to the environment and quickly adjust to market requirements. As a result of the author's study, it is difficult to disagree with the second group of researchers since today's business operates in an extremely volatile environment, and the ability to develop and adapt becomes the key to effective functioning and the possibility of obtaining positive changes.

The context diagram gives a general idea of the business process but does not detail its stages, so it is also worth decomposing the main process with a list of the main stages (figure 2).

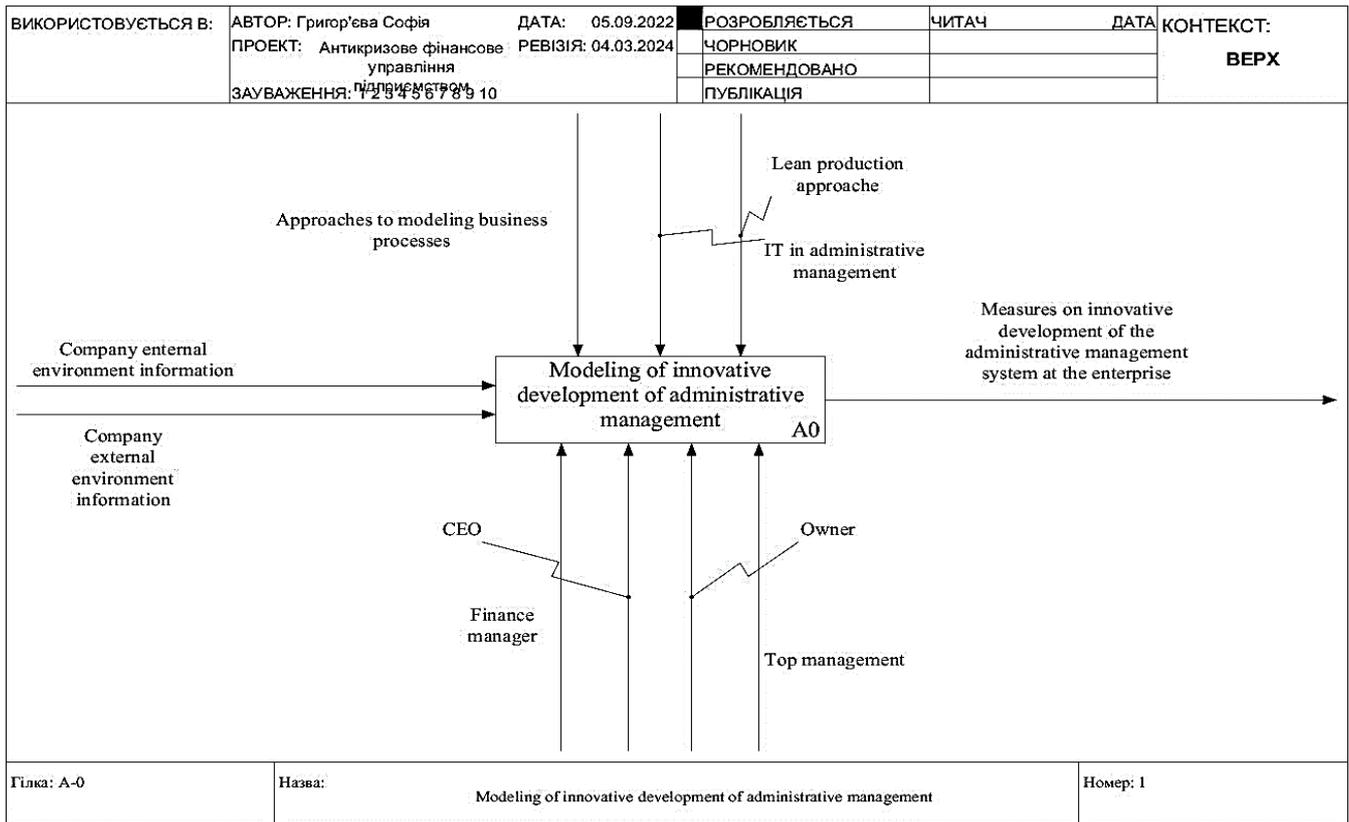


Figure 1. Context diagram of the business process model for implementing innovations in the administrative management of an enterprise

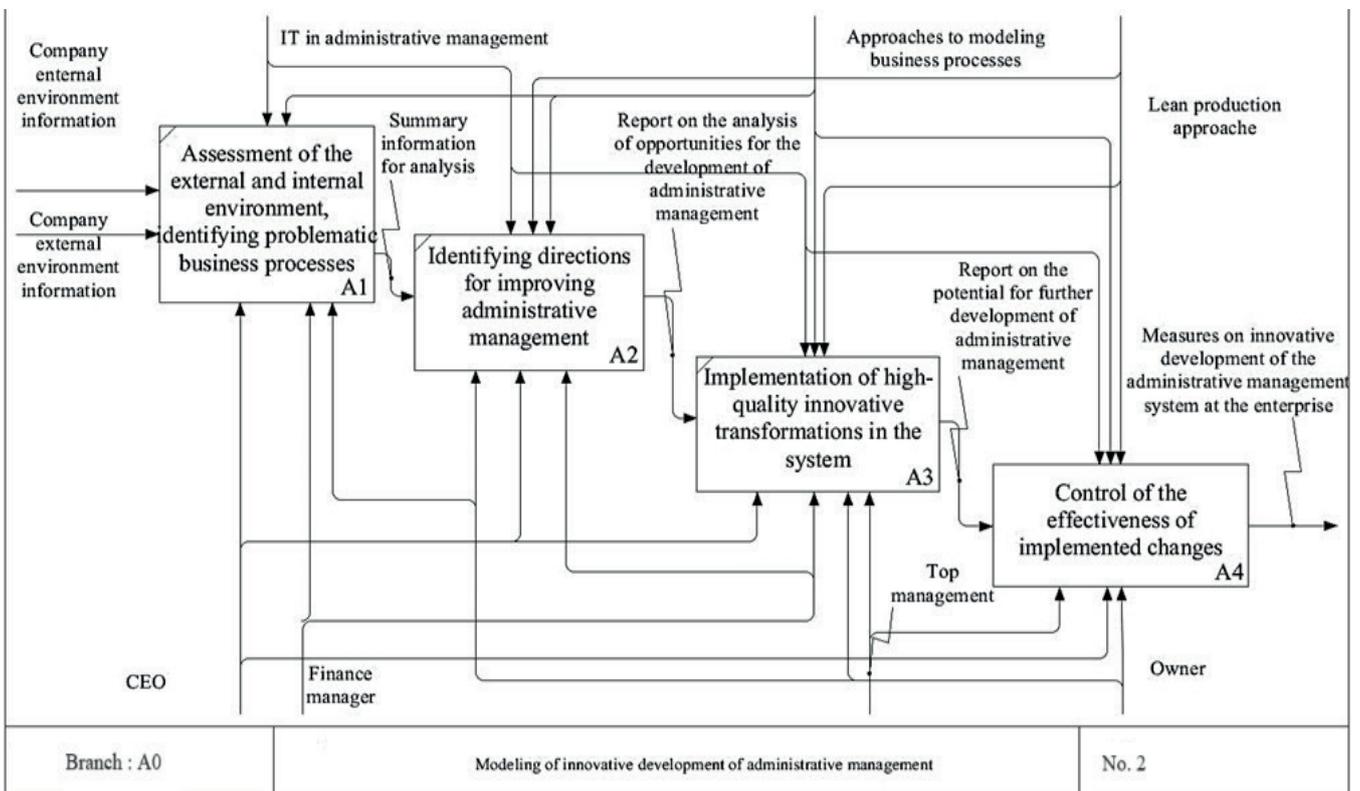


Figure 2. Diagram of the decomposition of the business process model for implementing innovations in the administrative management of an enterprise

Another controversial issue in the analysis of the innovative development of administrative management is the active introduction of digital technologies into the modern management system. For most researchers^(46,47,48)

today, the need to introduce the latest digital technologies into the management system is obvious, which is certainly worth agreeing with, but it is necessary to take into account the risks of a significant increase in costs at the stage of starting the introduction of technologies and note the need for a significant restructuring of the company's staff, it is necessary not only to attract information technology specialists but also to train existing staff to adapt to the digital tools used in the enterprise.

Another point to which researchers^(49,50) draw attention is cybersecurity. And here we can agree with some scholars who emphasise that in the process of planning the development of an administrative management system using digital platforms, it is necessary to pay significant attention to building a data protection and information security system.

CONCLUSION

In accordance with the purpose of the study, a systematization of possible innovative solutions in the organization of modern administrative management was carried out.

The study found that it is relevant and appropriate for most companies to implement business processes to ensure a qualitative and systematic result of enriching administrative management with innovative technologies.

The most important trend in the innovative development of administrative management in 2023 was digital transformation: Organisations are actively implementing digital technologies to automate processes, improve communication and optimise workflows. This may include using cloud solutions, artificial intelligence, data analytics, and other innovative technologies to improve the efficiency of administrative processes.

Another trend is the flexible working model based on lean manufacturing, which is being developed globally by many companies moving to flexible working models such as remote work, flexible working hours, and other alternatives to the traditional office environment. This requires new approaches to human resources management and workflows but also brings positive results regarding resource savings.

Using business process modeling, a model for implementing innovations in the administrative management of an enterprise has been created. This model involves the use of a wide range of opportunities for the development of modern administrative management.

In general, the trends identified in the study indicate the need for constant updating and adaptation in administrative management for successful functioning in the modern business environment, which was implemented by modelling the business process of introducing innovations into the administrative management of an enterprise, which allowed to obtain a comprehensive understanding of how and under what conditions the process of innovative transformations in modern business should be implemented.

REFERENCES

1. Chychun V, Chaplynska N, Shpatakova O, Pankova A, Saienko V. Effective management in the remote work environment. *J Syst Manag Sci* [Internet]. 2023 [cited 2024 Dec 13];13(3):244-57. Available from: <https://doi.org/10.33168/JSMS.2023.0317>
2. Gil-Gomez H, Guerola-Navarro V, Oltra-Badenes R, Lozano-Quilis JA. Customer relationship management: Digital transformation and sustainable business model innovation. *Econ Res-Ekon Istraz* [Internet]. 2020 [cited 2024 Dec 13];33(1):2733-50. Available from: <https://doi.org/10.1080/1331677X.2019.1676283>
3. Buriak I, Petchenko M. Analysis of the dilemmas of building an accounting system for the needs of future economic management. *Futurity Economics & Law* [Internet]. 2021 Mar. 25 [cited 2024 Dec. 13];1(1):17-23. Available from: <https://www.futurity-econlaw.com/index.php/FEL/article/view/46>
4. Kolinets L. International Financial Markets of the Future: Technological Innovations and Their Impact on the Global Financial System. *Futurity of Social Sciences* [Internet]. 2023 Sep. 20 [cited 2024 Dec. 13];1(3):4-19. Available from: <https://futurity-social.com/index.php/journal/article/view/8>
5. Riabov I, Riabova T. Development of the creative sector of the world economy: trends for the future. *Futurity Economics & Law* [Internet]. 2021 Dec. 25 [cited 2024 Dec. 13];1(4):12-8. Available from: <https://www.futurity-econlaw.com/index.php/FEL/article/view/14>
6. Abbas J, Zhang Q, Hussain I, Akram S, Afaq A, Shad MA. Sustainable innovation in small medium enterprises: The impact of knowledge management on organizational innovation through a mediation analysis by using SEM approach. *Sustainability* [Internet]. 2020 [cited 2024 Dec 13];12(6):240-51. Available from: <https://doi.org/10.3390/su12062407>
7. Chovhaniuk O, Bashkirova L, Meleha K, Yakymenko V. Study of the state of health in the conditions of

constant numerous transitional and intermediate stages. *Futurity Medicine* [Internet]. 2023 Jun. 30 [cited 2024 Dec. 13];2(2):26-34. Available from: <https://futurity-medicine.com/index.php/fm/article/view/30>

8. Storozhyk M. Philosophy of future: analytical overview of interaction between education, science, and artificial intelligence in the context of contemporary challenges. *Futurity Philosophy* [Internet]. 2024 Feb. 20 [cited 2024 Dec. 13];3(1):23-47. Available from: <https://futurity-philosophy.com/index.php/FPH/article/view/67>

9. Blau A, Sela Y, Grinberg K. Public perceptions and attitudes on the image of nursing in the wake of COVID-19. *Int J Environ Res Public Health* [Internet]. 2023 [cited 2024 Dec 13];20(6):47-57. Available from: <https://doi.org/10.3390/ijerph20064717>

10. Zhang A, Duong L, Seuring S, Hartley JL. Circular supply chain management: A bibliometric analysis-based literature review. *Int J Logist Manag* [Internet]. 2023 [cited 2024 Dec 13];34(3):847-72. Available from: <https://doi.org/10.1108/IJLM-04-2022-0199>

11. Salah AH, Alzghoul A. Assessing the moderating role of customer orientation on the impact of business intelligence tools on digital marketing strategy optimization. *Int Rev Manag Mark* [Internet]. 2024 [cited 2024 Dec 13];14(3):18-25. Available from: <https://doi.org/10.32479/irmm.16044>

12. Saqib M, Zarine R. Evaluating customer relationship management (CRM) as a business knowledge and intelligence management tool. *Irasd J Manag* [Internet]. 2021 [cited 2024 Dec 13];3(2):171-84. Available from: <https://doi.org/10.52131/jom.2021.0302.0036>

13. Aladayleh KJ. A framework for integration of artificial intelligence into digital marketing in Jordanian commercial banks. *J Innov Digit Mark* [Internet]. 2020 [cited 2024 Dec 13];1(1):32-9. Available from: <https://doi.org/10.51300/jidm-2020-10>

14. Kim H, So KKF, Shin S, Li J. Artificial intelligence in hospitality and tourism: Insights from industry practices, research literature, and expert opinions. *J Hosp Tour Res* [Internet]. 2024 [cited 2024 Dec 13]. Available from: <https://doi.org/10.1177/10963480241229235>

15. Zaman K. Transformation of marketing decisions through artificial intelligence and digital marketing. *J Mark Strateg* [Internet]. 2022 [cited 2024 Dec 13];4(2):353-64. Available from: <https://doi.org/10.52633/jms.v4i2.210>

16. Ilmudeen A. Big data analytics capability and organizational performance measures: The mediating role of business intelligence infrastructure. *Bus Inf Rev* [Internet]. 2021 [cited 2024 Dec 13];38(4):183-92. Available from: <https://doi.org/10.1177/02663821211055321>

17. Jauhar S, Pratap S, Lakshay, Paul S, Gunasekaran A. Internet of things based innovative solutions and emerging research clusters in circular economy. *Oper Manag Res* [Internet]. 2023 [cited 2024 Dec 13];16:1968-88. Available from: <https://pure.psu.edu/en/publications/internet-of-things-based-innovative-solutions-and-emerging-resear>

18. Baraja H, Chaniago H. Investigation of Business Capital and Product Innovation in Culinary Business Development: Evidence from a Densely Populated City. *Futurity Economics & Law* [Internet]. 2023 Sep. 25 [cited 2024 Dec. 13];3(3):97-114. Available from: <https://www.futurity-econlaw.com/index.php/FEL/article/view/119>

19. Orhani S. Philosophy of e-learning vs m-learning. *Futurity Philosophy* [Internet]. 2023 [cited 2024 Dec 13];2(4):4-23. Available from: <https://doi.org/10.57125/FP.2023.12.30.01>

20. Bhandari MP. Past and present of social inequality: Analysing structure and future trends. *Futurity of Social Sciences* [Internet]. 2023 [cited 2024 Dec 13];1(3):47-60. Available from: <https://doi.org/10.57125/FS.2023.09.20.04>

21. Mariono A, Sabar. The influence of school management information systems and teacher's social competence on the parent satisfaction of junior high school students. *Futurity Education* [Internet]. 2023 [cited

2024 Dec 13];3(2):79-104. Available from: <https://doi.org/10.57125/FED.2023.06.25.05>

22. AlHamad A, Alshurideh M, Alomari K, Kurdi B, Alzoubi H, Hamouche S, Al-Hawary S. The effect of electronic human resources management on the organizational health of telecommunications companies in Jordan. *Int J Data Netw Sci [Internet]*. 2022 [cited 2024 Dec 13];6(2):429-38. Available from: <https://doi.org/10.5267/j.ijdns.2021.12.011>

23. Bannikova K. To the question of migration of capital and labor force of Ukraine: Forecast of future trends. *Futurity Economics & Law [Internet]*. 2022 [cited 2024 Dec 13];2(2):32-41. Available from: <https://doi.org/10.57125/FEL.2022.06.25.04>

24. Mura L. The philosophy of personnel management of small and medium-sized businesses in Slovakia. *Futurity Philosophy [Internet]*. 2022 [cited 2024 Dec 13];1(3):27-39. Available from: <https://doi.org/10.57125/FP.2022.09.30.02>

25. Khaddam AA, Alzghoul A, Abusweilem MA, Abousweilem F. Business intelligence and firm performance: A moderated-mediated model. *Serv Ind J [Internet]*. 2023 [cited 2024 Dec 13];43(13-14):923-39. Available from: <https://doi.org/10.1080/02642069.2021.1969367>

26. Aditi A, Govindan K, Jha PC. Modelling of barriers in implementing sustainable manufacturer-supplier collaboration and coping strategies. *J Clean Prod [Internet]*. 2023 [cited 2024 Dec 13];434:139-45. Available from: <https://doi.org/10.1016/j.jclepro.2023.139635>

27. Kurolov M. Exploring the role of business intelligence systems in digital healthcare marketing. *Int J Soc Sci Res Rev [Internet]*. 2023 [cited 2024 Dec 13];6(6):377-83. Available from: <https://doi.org/10.47814/ijssrr.v6i6.1226>

28. Priyadarshini P, Veeramanju K. Business intelligence for the evaluation of customer satisfaction in E-commerce websites—a case study. *Int J Manag Technol Soc Sci [Internet]*. 2022 [cited 2024 Dec 13];7:660-8. Available from: <https://doi.org/10.47992/IJMTS.2581.6012.0243>

29. Martynenko M, Losheniuk O, Demchenko H, Osypenko N. Developing and implementing digital marketing strategies of the future: Toward improving product quality and competitiveness. *Futurity Economics and Law [Internet]*. 2023 [cited 2024 Dec 13];3(1):63-84. Available from: <https://doi.org/10.57125/FEL.2023.03.25.07>

30. Fan C, Tang S, Chen L, Sun T. Perceived organizational support and proactive innovation behavior: The mediating role of basic psychological needs. *Front Psychol [Internet]*. 2022 [cited 2024 Dec 13];13:804-63. Available from: <https://doi.org/10.3389/fpsyg.2022.804363>

31. David OL, Adepoju OO, Akinyomi ER. Digital marketing tools and sales performance of Shoprite, shopping mall Akure, Ondo State Nigeria. *Open J Manag Sci [Internet]*. 2022 [cited 2024 Dec 13];3(2):21-34. Available from: <https://doi.org/10.52417/ojms.v3i2.409>

32. Kanake MK, Kemboi A. Employee empowerment and innovative work behavior: The moderating role of leader-member exchange. *SEISENSE J Manag [Internet]*. 2020 [cited 2024 Dec 13];3(5):13-23. Available from: <https://doi.org/10.33215/sjom.v3i5.421>

33. Shuleski D, Panait M, Pricop C, Talevska E. Improving the management process through IT and for increasing the customer satisfaction level in health care sector. *Manag Econ Rev [Internet]*. 2019 [cited 2024 Dec 13];4(1):69-82. Available from: <https://doi.org/10.24818/mer/2019.06-06>

34. Yu T, Rita P, Moro S, Oliveira C. Insights from sentiment analysis to leverage local tourism business in restaurants. *Int J Cult Tour Hosp Res [Internet]*. 2021 [cited 2024 Dec 13];16(1):321-36. Available from: <https://doi.org/10.1108/IJCTHR-02-2021-0037>

35. Bannikov V, Lobunets T, Buriak I, Maslyhan O, Shevchuk L. On the question of the role of project management in the digital transformation of small and medium-sized businesses: Essence and innovative potential. *Amazonia Investiga [Internet]*. 2022 [cited 2024 Dec 13];11(55):334-43. Available from: <https://doi.org/10.34069/AI/2022.55.07.35>

36. Lapuente V, Van de Walle S. The effects of new public management on the quality of public services. *Governance* [Internet]. 2020 [cited 2024 Dec 13];33(3):461-75. Available from: <https://doi.org/10.1111/gove.12502>
37. Lam L, Nguyen P, Le N, Tran K. The relation among organizational culture, knowledge management, and innovation capability: Its implication for open innovation. *J Open Innov Technol Mark Complex* [Internet]. 2021 [cited 2024 Dec 13];7(1):Article 66. Available from: <https://doi.org/10.3390/joitmc7010066>
38. Sayed R. Exploring cultural influences on project management approaches in global business development. *Futurity of Social Sciences* [Internet]. 2023 [cited 2024 Dec 13];1(4):38-60. Available from: <https://doi.org/10.57125/FS.2023.12.20.02>
39. Sofilkanych N, Vesova O, Kaminsky V, Kryvosheieva A. The impact of artificial intelligence on Ukrainian medicine: Benefits and challenges for the future. *Futurity Medicine* [Internet]. 2023 [cited 2024 Dec 13];2(4):28-39. Available from: <https://doi.org/10.57125/FEM.2023.12.30.04>
40. Wiesböck F, Hess T. Digital innovations: Embedding in organizations. *Electron Mark* [Internet]. 2020 [cited 2024 Dec 13];30(1):75-86. Available from: <https://doi.org/10.1007/s12525-019-00364-9>
41. Susdarwono ET, Wiranta A, Suwarji. Harmonizing sustainability: Integrating Javanese Tri Dharma Sambernyawa philosophy into regional governance for blue economy advancement. *Futurity Philosophy* [Internet]. 2023 [cited 2024 Dec 13];2(4):24-42. Available from: <https://doi.org/10.57125/FP.2023.12.30.02>
42. Jacinto-Alvaro J, Casco RJE, Macha-Huamán R. Social networks as a tool for brand positioning. *Edu - Tech Enterprise* 2024;2:9-9. <https://doi.org/10.71459/edutech20249>.
43. Dooranov A, Orozonova A, Alamanova C. The economic basis for the training of specialists in the field of personnel management: Prospects for the future. *Futurity Economics & Law* [Internet]. 2022 [cited 2024 Dec 13];2(1):27-35. Available from: <https://doi.org/10.57125/FEL.2022.03.25.04>
44. Morgulets OB, Hryhorevska OO. Methodological approaches to the analysis of university management efficiency. *Actual Probl Econ* [Internet]. 2016 [cited 2024 Dec 13];182(8):323-33.
45. Fidel WWS, Cuicapusa EEM, Espilco POV. Managerial Accounting and its Impact on Decision Making in a small company in the food sector in West Lima. *Edu - Tech Enterprise* 2024;2:8-8. <https://doi.org/10.71459/edutech20248>.
46. Prylypko V. Current issues and problems of legal training of specialists in non-legal specialties. *Futurity Economics & Law* [Internet]. 2023 [cited 2024 Dec 13];3(1):53-62. Available from: <https://doi.org/10.57125/FEL.2023.03.25.06>
47. Serikova M, Sembiyeva L, Mussina A, Kuchukova N, Nurumov A. The institutional model of tax administration and aspects of its development. *Invest Manag Financ Innov* [Internet]. 2018 [cited 2024 Dec 13];15(3):283-93.
48. Carrasco MÁA, Apaza VTT. Budget execution of public expenditure of the municipalities. *Edu - Tech Enterprise* 2024;2:10-10. <https://doi.org/10.71459/edutech202410>.
49. Tkachova N, Saienko V, Bezena I, Tur O, Shkurat I, Sydorenko N. Modern trends in the local governments' activities. *AD ALTA J Interdiscip Res* [Internet]. 2021 [cited 2024 Dec 13];Special Issue 11/02-XXII:112-8. Available from: https://www.academia.edu/62054395/MODERN_TRENDS_IN_THE_LOCAL_GOVERNMENTS_ACTIVITIES
50. Tregubov O, Podrieza S, Hoi N, Ivanova T, Kulinich T. Green economy development under the financial crisis. *Int J Energy Environ Econ* [Internet]. 2022 [cited 2024 Dec 13];29(3):255-69.

FINANCING

The authors did not receive financing for the development of this research.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

Conceptualization: Inna Sokhan, Liu Jiren.

Data curation: Kateryna Kandahura, Petro Matkovskyi.

Formal analysis: Nataliia Hoi, Kateryna Kandahura.

Research: Inna Sokhan, Liu Jiren, Kateryna Kandahura.

Methodology: Liu Jiren, Nataliia Hoi.

Project management: Petro Matkovskyi, Inna Sokhan.

Software: Kateryna Kandahura, Liu Jiren.

Supervision: Inna Sokhan, Petro Matkovskyi.

Validation: Nataliia Hoi, Liu Jiren.

Display: Kateryna Kandahura, Nataliia Hoi.

Drafting - original draft: Inna Sokhan, Kateryna Kandahura.

Writing - proofreading and editing: Liu Jiren, Petro Matkovskyi.